



## **Declaration for Record of Decision**

**Statutory Preference for Treatment as a  
Principal Element is met  
and Five Year Site Review is Required**

### **Site Name and Location**

New Jersey Zinc / Mobil Chemical National Priorities List Site  
DePue, Illinois  
ILD062340641

### **Statement of Basis and Purpose**

This decision document presents the selected remedial action for the New Jersey Zinc / Mobil Chemical National Priorities List (NPL) site, in DePue, Illinois, which was chosen in accordance with CERCLA, as amended by SARA and, to the extent practicable the National Contingency Plan. This decision is based on the administrative record file for this site.

The United States Environmental Protection Agency concurs with the selected remedy.

### **Assessment of the Site**

The response action selected in this Interim Action Record of Decision (ROD) is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

### **Description of the Selected Remedy**

This operable unit is an interim action for the site. Adjacent operable unit RODs will address any residual sediment contamination, groundwater contamination and discharges of contaminated groundwater discharge to surface water. This interim action addresses the principal threat at the South Ditch Operable Unit by removal of metals contaminated unnatural sediment with containment of that sediment on-site pending selection of final remedies for higher quantity operable units with similar but less mobile contaminants. The actions detailed in this Interim Action ROD will prevent further migration of contaminants to receiving surface water bodies, stabilize the unnatural sediment in a Corrective Action Management Unit reducing the exposure potential to human and sensitive ecological receptors, and maintain the high concentration metals containing sediment in a discrete unit. A final remedy will be selected for the unnatural sediment which is consistent with / complementary to remedies for other operable units at the site containing much larger quantities of similar material; resource recovery (redirection of the waste to metals reclamation technologies) will be considered during selection of remedies for those other Operable Units and the unnatural sediment has the potential to be included in that resource recovery. As on-site containment is a key component of the remedy long-term management and monitoring of the site will be required.

The key components of the Selected Remedy are as follows:

- Treatability Studies to determine appropriate admixtures and dosage rates to achieve adequate contaminant removal from discharge water streams; retention (settling) time required in decant basins, assessment of physical treatment enhancements likely to assist in meeting discharge criteria (i.e. high volume sand filtration); pilot evaluations of mechanical techniques for high solids sediment removal; physical stabilization and chemical fixation agents, mixing rates and curing times required prior to placement of sediment in the Interim Containment Cell; and silt fence material selection, placement and maintenance frequency;
- Construction of settling basins (decant ponds);
- Construction of an interim containment cell where the bottom and sidewalls of the cell will generally consist of a graded layer of low-permeability soil, a synthetic impermeable liner and an aggregate drainage layer under the stabilized unnatural sediments;
- Hydraulic and / or mechanical dredging of unnatural sediments;
- Dewatering, stabilization and finally placement of the stabilized unnatural sediment into the interim containment cell;
- Construction of a solid waste cap over the interim containment cell;
- Monitoring and maintenance for the interim containment.

### **Statutory Determinations**

**Statutory Requirements** - The Selected Remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment (or resource recovery) technology to the maximum extent practicable.

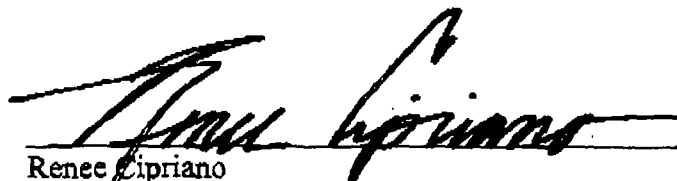
**Statutory Preference for Treatment** - The interim remedy for this OU satisfies the statutory preference for treatment as a principle element of the remedy.

**Five-Year Review Requirements** - Because this remedy will result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment.

### **Interim Action ROD Data Certification Check List**

The following information is included in the Decision Summary section of this Interim Action Record of Decision. Additional information can be found in the Administrative Record file for this site.

- Chemicals of concern and their respective concentrations (Table 1)
- Screening level risk represented by the chemicals of concern (Baseline Risk Assessment deferred to final RI of surrounding OUs). (Table 2)
- Cleanup levels established for chemicals of concern and the basis for these levels. (Section VIII)
- How source materials constituting principle threats are addressed. (Section XII)
- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of ground water used in the Screening Level risk assessment and ROD. (Section VI)
- Potential land and groundwater use that will be available at the site as a result of the Selected Remedy. (Section VII)
- Estimated capital, annual operation and maintenance (O&M), and total present worth cost, discount rate, and the number of years over which the remedy cost estimates are projected. (Section IX)
- Key factor(s) that led to selecting the interim remedy (i.e. describe how the Selected Remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision). (Section X)



Renee Cipriano  
Director

Illinois Environmental Protection Agency

OCT 03 2003

**Record of Decision Summary  
New Jersey Zinc / Mobil Chemical Site  
South Ditch Interim Sediments Action  
DePue, Illinois**

**I. Site Location and Description**

The New Jersey Zinc/Mobil Chemical site (CERCLIS ID Number: ILD 062 340 641) is located in the village of DePue, Bureau County, Illinois. The historic manufacturing site consists of approximately 950 acres within the corporate limits of the Village of DePue ("the Village") and constitutes roughly one-half of the village land mass. Delineation of the extent of contamination from the facility will be completed as the Remedial Investigations ("RIs") proceed and may include over four square miles (2560 acres) within and surrounding the Village. All the privately- and municipally-owned properties within the Village, over 100 acres of land owned by the Illinois Department of Natural Resources ("Illinois DNR"), all of DePue Lake (reported by Illinois DNR to be in excess of 685 surface acres) and additional privately-owned properties outside the corporate limits of the village will likely be included in the delineation studies to establish the extent of contamination.

**II. Site History and Enforcement Activities**

The site has been the location of primary zinc smelting, sulfuric acid manufacturing, paint pigment production, ammonium phosphate fertilizer manufacturing, refining and recovery of secondary metals from zinc ore (i.e., cadmium), secondary zinc smelting and zinc dust production. The site was originally developed in 1905 as a primary zinc smelter by the Mineral Point Zinc Company and was operated continuously in various capacities until 1989. Between 1905 and 1989, portions of the site were owned and operated by the New Jersey Zinc Company, the Mobil Oil Corporation, Gulf & Western Industries, Horsehead Industries and the Zinc Corporation of America. Through various corporate mergers and acquisitions, responsibility for the site has fallen to Viacom International Incorporated, ExxonMobil Corporation and Horsehead Industries. These three companies have formed an entity known as "The DePue Group," which collectively represents the potentially responsible parties ("PRPs") for the site.

Through enforcement of the Clean Air Act and the Clean Water Act, the Illinois Environmental Protection Agency ("Illinois EPA") and the United States Environmental Protection Agency ("U.S. EPA") have had extensive involvement at the site. Many violations of both state and federal environmental regulations were investigated by both agencies. The violations and resulting investigations are beyond the scope of this document and are not enumerated herein.

In 1987, the U.S. EPA evaluated the site under the guidelines of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA" or "Superfund") and determined that the site did not qualify for placement on the National Priorities List ("NPL"). However, the placement criteria were modified by the Superfund Amendments and Reauthorization Act of 1986 ("SARA"). In 1992, the Illinois EPA reevaluated the site for NPL placement under the new criteria. The site

was subsequently proposed for inclusion on the NPL on April 1, 1997 and the listing was finalized on June 9, 1999.

In 1992, the New Jersey Zinc site was the subject of an Expanded Site Investigation conducted by the Illinois EPA. The main areas of contamination discovered at the site were: a waste pile containing in excess of one million tons of primary zinc smelter slag; several waste piles of paint pigment production waste estimated to contain in excess of 200,000 tons of material; the plant property containing the historic processing areas; and various impacted off-site properties. Based on the results of the investigation, an Interim Consent Order (ICO) between the State of Illinois and the DePue Group was negotiated. This ICO was entered in the Circuit Court for the Thirteenth Judicial Circuit Bureau County, Illinois on November 6, 1995. The ICO requires immediate response actions such as enhanced site security, dust control and air monitoring, and control and treatment of certain groundwater and surface water releases. The ICO also requires several Remedial Investigation and Feasibility Studies ("RI/FS"), design of all remedies, and the implementation of selected remedies (i.e., the phosphogypsum<sup>1</sup> waste pile which exceeds 160 acres closure of the small vanadium pentoxide disposal area, and completion of the selected remedy for the South Ditch unnatural sediments). The ICO does not contain a commitment for ultimate site-wide remedial action, but instead, envisions a subsequent order to drive final site wide activities.

Specific to this Record of Decision (ROD), the ICO requires an RI/FS and a Remedial Design and Remedial Action ("RD/RA") of the site area known as the South Ditch ("South Ditch Operable Unit 1" or "OU 1").

An additional substantive requirement of the ICO was for the DePue Group to take measures to reduce or preclude discharges of metals-contaminated groundwater to surface waters of the state. At the time of entry of the ICO, the South Ditch received discharges of contaminated groundwater and surface water from the site. These discharges resulted in unnatural sediment, with high concentrations of heavy metals being deposited in the South Ditch. After the entry of the ICO, the DePue Group constructed an Interim Water Treatment Plant to collect and treat the sources of the metals-contaminated sediment. Operation of the Interim Water Treatment Plant will preclude future deposition of metals-contaminated sediment and has substantially reduced the potential for discharges of contaminated groundwater to surface water.

This Interim Action ROD describes the action that will address the mobile sediments contained in the South Ditch and is based on the RI/FS results and a DePue Group contractor proposal. This action is not considered to be the final action in the area surrounding the South Ditch, but is rather the sequestration of potentially mobile, contaminated material in the Illinois River flood plain.

---

<sup>1</sup> Calcium sulfate produced from the manufacture of phosphoric acid fertilizer. Phosphogypsum is generated from the reaction (acid conversion) of calcium phosphate by sulfuric acid. The resultant reaction products are calcium sulfate and phosphoric acid.

### **III. Community Participation**

The Draft RI/FS Report, the Proposed Plan for the New Jersey Zinc/Mobil Chemical Site South Ditch Interim Sediments Action and other associated documents were made available to the public in September 2002. The documents are located in the Administrative Record file and information repository at the Illinois EPA's Bureau of Land division file in Springfield, IL and at the Selby Township Library, 101 Depot Street, DePue, IL. The notice of the availability of these documents was published in the LaSalle News Tribune on September 6, 13 and 20, 2002, and the Bureau County Republican on September 1, 2002. An extension of the public comment period was requested, and the comment period was extended to December 20, 2002. A public hearing was also held on October 9, 2002, to present the Proposed Plan to a broader community audience. At the hearing, representatives of the Illinois EPA answered questions about the remedial alternatives and the Preferred Option presented in the Proposed Plan. The Illinois EPA's responses to the comments received during this period are included in the Responsiveness Summary, which is a part of this ROD.

### **IV. Scope and Role of Operable Unit or Response Action**

Because of the complexity of the environmental issues and waste units at this site, the Illinois EPA has organized the site into five (5) operable units (OUs):

- OU 1: South Ditch Contaminated Sediments.
- OU 2: The Phosphogypsum Stack (the large waste pile north of State Route 29).
- OU 3: The Plant Site.
- OU 4: Off-site Soils.
- OU 5: DePue Lake Sediments and the Flood Plain.

The identification numbers associated with these operable units do not imply any particular priority of action or scheduling. Closure of OU 2 was initiated prior to entry of the ICO and has progressed without interruption since then. OU 3 is the subject of ongoing RI activity and the release of the Phase I Plant Site RI report is expected in the fall of 2003. Planning for RI activities on OU 5 is underway and the Work Plans for the RI of OU 4 are expected in the late spring of 2004.

The subject of the interim remedial action described in this ROD is OU 1, which addresses metals-contaminated sediments. The sediments have been identified as a principle threat waste in the South Ditch because of their acute toxicity to aquatic fauna, the ease with which they could be mobilized, and the inability to reliably contain these sediments in their current location. The sediments exceed the U.S. EPA's acceptable risk range for soil ingestion and dust inhalation for both child trespassers, and on-site constructions workers, and therefore pose a current and potential risk to human health. The sediments also present a substantial potential ecological risk, based on the near 100 percent mortality of surrogate test organisms within four days of exposure to the sediments. This interim response action for the sediments addresses the principle threats by removing the sediments from the South Ditch and placing them in an environmentally secure unit on the plant site. The remedy described in this ROD is consistent with the probable remedies for other portions of the site, including OU 5 (discussed below), and will not interfere with those remedies.

This ROD acknowledges that OU 1 is surrounded in its southern two thirds by OU 5 and the northern one third by OU 3. This recognition is the primary reason that this is an interim action. The interim action described in this ROD will be protective of human health and the environment as it relates to removal and management of highly mobile principal threat waste to a secure location. The RI/FSs for OU 3 and OU 5 will provide data to select and design a final remedy of OU 1. The remedies ultimately selected and implemented for OU 3 and OU 5 will encompass the area of OU 1 and will additionally complete remedial efforts directed at OU1.

## **V. Site Characteristics**

The South Ditch is fully within the annual flood plain of DePue Lake and flooding is controlled by the water level of the Illinois River. The northern 120 to 150 feet of the ditch is incised into fill consisting of placed soil and slag material. The remainder of the ditch traverses marshy lowlands adjacent to DePue Lake. In some areas, this “mud flat” is heavily vegetated with wetland tree species and marsh plants. In many other areas, it is denude of vegetation. Historic aerial photo analysis and observations of the ditch indicate the lower reaches of the ditch are a classic delta and the South Ditch is a meandering stream within that delta. The South Ditch empties directly into DePue Lake via a culvert approximately 1600 feet below the origin of the ditch.

Two elongated lagoons previously used for cooling water discharge from the plant site are located adjacent to the west side of the South Ditch. These lagoons are approximately 550 long and are dug into an elevated fill area approximately 10 feet above the flood plain. The lagoons are separated from the South Ditch by approximately 50 to 100 feet of lowland. An area known as the “muni-dump” borders the eastern side of the extreme northern end of the ditch. The name implies municipal involvement in the operation of this area of fill, however, there is little to no information in support of that conclusion. There are some anecdotal indications that local residents used the area for random dumping, but the predominance of material found thus far in the area appears to be primary zinc smelter slag, spent refractory and demolition debris from the plant site.

The RI/FS for OU 1 was conducted between 1995 and 1997. The RI indicated that 7,900 cubic yards of unnatural sediment exist within the study area, varying in depth from 2.6 to 6.8 feet and from 12 feet to greater than 45 feet in width. The boundaries of the RI study area and the location of the unnatural sediment are shown on Attachment A of this ROD. In addition to this quantity determination, chemical and screening risk assessment data was collected, an assessment of water table interactions was conducted, and general observations were made on the local ecology. The data gathered in the RI along with a comparison to the Ontario and British Columbia Provincial Sediment Guidelines is summarized in Table 1.

Table 1  
Summary of Metals Analysis of Sediments

Metal	South Ditch Minimum Concentration (mg/kg)	South Ditch Maximum Concentration (mg/kg)	Turner Lake (Background) Average Concentration (mg/kg)	Ontario & British Columbia Provincial Guidelines (mg/kg)		Frequency that South Ditch Sediments Exceeded Sediment Guidelines *
				LEL	SEL	
<b>Arsenic</b>	7.8	82	8.1	6	33	13/13 (LEL)
<b>Beryllium</b>	ND	2.8	0.9	NA	NA	NA
<b>Cadmium</b>	32.4	910	5.2	0.6	10	13/13 (LEL), 13/13 (SEL)
<b>Chromium</b>	ND	78.2	40.4	26	110	NA
<b>Cobalt</b>	8.1	70.2	10	50	NA	9/13 (LEL)
<b>Copper</b>	144	97,700	41.2	16	110	13/13 (LEL), 13/13 (SEL)
<b>Lead</b>	125	3,440	48.7	31	250	13/13 (LEL), 12/13 (SEL)
<b>Manganese</b>	433	3,130	572	460	1,100	13/13 (LEL), 13/13 (SEL)
<b>Mercury</b>	ND	4.6	ND	0.2	2.0	12/13 (LEL) 1/13 (SEL)
<b>Nickel</b>	11.6	69.4	37.4	16	75	13/13 (LEL)
<b>Selenium</b>	ND	4.6	0.65	5	NA	NA
<b>Silver</b>	ND	144	ND	0.5	NA	13/13 (LEL)
<b>Vanadium</b>	5	38	26.5	NA	NA	NA
<b>Zinc</b>	3,840	204,000	240	120	820	13/13 (LEL), 13/13 (SEL)

ND - Not Detected    NA - Not Applicable or Not Available    LEL - Lowest Effect Level    SEL - Severe Effect Level

\* The comparison against the Provincial Sediment Guidelines was only done for samples in the top six inches of the sediment column.



**Other more general findings of the RI include:**

- The unnatural sediment contains elevated concentrations of metals, compared to background samples collected at Turner Lake. The analytical results are summarized in Table 1 at the end of this section.
- Groundwater in portions of the South Ditch is upwelling, resulting in groundwater discharges to the stream.
- The unnatural sediment is acutely toxic to specific test organisms.
- Beaver inhabit the area of the South Ditch.
- Sport and forage fish, great blue herons, egrets and various other waterfowl including wood ducks, mallard ducks and Canada geese inhabit DePue Lake, which receives discharges from the South Ditch.
- Vegetation in some of the areas of the South Ditch is sparse (i.e., stressed or non-existent).

**VI. Current and Potential Future Site and Resource Uses**

The South Ditch is fully within the 100 year flood plain and most of the area is within the annual flood plain of DePue Lake, with water levels controlled by those in the Illinois River. This area of the site can reasonably be expected to remain a wetland setting. Any future land use will likely be determined more by the physical geographic setting than by residual contamination. Any residual contamination remaining after this interim action will be assessed during the OU 5 component of the RI. If necessary, remedial alternatives will be proposed in subsequent Feasibility Studies and will be selected through the Proposed Plan and ROD process.

**VII. Summary of Site Risks**

A traditional Baseline Risk Assessment (BRA) was not conducted as part of the South Ditch RI process. The BRA was deferred to the OU 5 RI. This deferral will insure that any final remedy selected for the South Ditch OU 1 is consistent with the more global lake area remedy(s). A Qualitative Human Health Risk Assessment (Screening Risk Assessment or SRA) and a Screening Ecological Risk Assessment were conducted as part of the South Ditch RI. The SRA provides a conservative estimate of what risk the site poses if no action were taken. It provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by the remedial action. This section of the ROD summarizes the results of the screening risk assessment for this site.

As the South Ditch OU1 is fully within the 100-year flood plain, future residential land use was not considered a reasonable possibility. Therefore, the residential land use scenario was not considered in the SRA. Industrial land use was also not considered a reasonable possibility. Two alternatives that were considered reasonably likely to occur (prior to selection of final remedies for the entire area) were the child trespasser scenario and the construction worker scenario.

The child trespasser scenario was developed to evaluate the risk associated with exposure from inhalation and ingestion of South Ditch sediments by a child who is six to 12 years old and uses the area four hours per day, 50 days per year. More specific information

and detail on the assumptions made for this SRA are contained in the South Ditch Focused Remedial Investigation Report.

The construction worker scenario made no adjustments from the assumptions utilized by the Illinois EPA in developing the Tiered Approach to Cleanup Objectives (TACO). The TACO document and the process of evaluating the child trespasser scenario are consistent with U.S. EPA Risk Assessment Guidance. Based on the results of the RI, the SRA determined that the contaminants of concern for the child trespasser scenario were arsenic, copper and lead. The contaminants of concern for the construction worker scenario were arsenic, cadmium, copper, lead and zinc.

U.S. EPA Risk Assessment guidance considers two types of risk: cancer risk and non-cancer risk. The likelihood of any kind of cancer resulting from a Superfund site is generally expressed as a probability. For example, a "1 in 1,000,000 increased chance" (expressed as  $1 \times 10^{-6}$ ). In other words, for every 1,000,000 people that are exposed to the site contaminants, one additional cancer case may occur. This cancer case would be in addition to the number of cancer cases normally expected in a population of 1,000,000.

The U.S. EPA considers risks between  $1 \times 10^{-6}$  and  $1 \times 10^{-4}$  (between 1 in a million and 1 in ten thousand) to be within the acceptable risk range. The Illinois EPA considers a risk of  $1 \times 10^{-6}$  a goal and evaluates risks greater than  $1 \times 10^{-6}$  on a site-by-site basis. In the child trespasser scenario at the South Ditch, only arsenic exceeds the cancer risk level of  $1 \times 10^{-6}$ , presenting a potential risk of  $1.49 \times 10^{-6}$ .

For non-cancer health effects, the U.S. EPA calculates a "hazard index" (HI). This index is a comparison of the concentration present at the site and the concentration below which non-cancer health effects are no longer expected. For example, the highest arsenic concentration at the site is 82 parts per million. The concentration for arsenic below which no health effect would be expected for a construction worker is 61 parts per million. The hazard index is calculated by dividing 82 by 61, which equals 1.34. Using this comparison, any contaminant at the site with a hazard index greater than one is of some concern.

For non-cancer risk in the child trespasser scenario, copper exceeded the hazard index of 1. For non-cancer risk calculations in the construction worker scenario, arsenic, cadmium, copper and zinc exceeded the hazard index of 1. The hazard index data for both the child trespasser and construction worker scenarios are summarized in Table 2 below.

**Table 2**  
**Hazard Index Summary**

Compound	Maximum South Ditch Concentration mg/kg	Concentration Where HI=1 Ingestion Pathway mg/kg	Derived Hazard Index
<b>Construction Worker Scenario</b>			
Arsenic	82	61	1.34
Cadmium	910	200	4.55
Copper	97,700	8,200	11.9
Zinc	204,000	61,000	3.34
<b>Child Trespasser Scenario</b>			
Copper	97,700	47,000	2.1

Lead concentrations exceeded the 400 mg/kg Soil Remediation Objectives for all land use scenarios in Illinois EPA's Tiered Approach to Corrective Action Objectives (TACO) (35 IAC Part 724) by a factor of 8.6. (3,440 mg/kg). While TACO is only a To Be Considered regulation and not an Applicable or Relevant and Appropriate Requirement (ARAR) for this site the value for lead used in TACO parallels the U.S.EPA Soil Screening Level of 400 mg/kg total lead.

A screening ecological risk assessment was performed as part of the Focused South Ditch RI Report. The assessment used a qualitative approach through a combination of direct testing and review of available literature. The Focused South Ditch RI summarizes available information on the effects of metals on ecological receptors such as mammals, birds, reptiles and amphibians, fish, invertebrates and plants. It also reports the results of direct benthic organism surrogate testing. The South Ditch sediment metals concentrations were also compared to the Ontario and British Columbia Provincial Guidelines for aquatic sediment quality (Ontario Sediment Guidelines). These guidelines are widely accepted for ecological evaluations.

According to the RI, beaver frequent the South Ditch area and a number of sport and forage fish, piscivorous (fish eating) birds and waterfowl inhabit DePue Lake, which receives the South Ditch discharge. The lake is also a significant recreational resource for the village of DePue. Indications of raccoon, muskrat and deer have been observed in the area of the South Ditch. This evidence included raccoon tracks and open mussel shells (likely from raccoon feeding), deer tracks in the mud flats adjacent to the South Ditch and visual sightings of muskrat in a pond adjacent to the South Ditch. Great blue heron, great egrets, bald eagles and white pelicans have also been seen feeding in DePue

Lake near the entry point of the South Ditch. An unidentified species of gar has been observed near the northern-most extent of the South Ditch.

In addition to the comparison of South Ditch sediments against published sediment quality guidelines, direct testing of the survivability of surrogate benthic organisms was conducted. Midge larvae (*Chironomus tentans*) and scud (*Hyalella azteca*) were selected as the surrogates, because they live in the benthic environment (the top few inches of lake sediment). Midge larvae and scud, or very similar species, would be expected to occur in DePue Lake sediments and they are readily available for testing.

The results of the benthic organism surrogate testing indicated a 100 percent mortality rate within four days of scud being exposed to South Ditch sediments from all eight sample locations. One hundred percent mortality within four days was also reported for midge exposed to samples from seven of the eight locations. The eighth location showed an 85 percent mortality rate after four days for midge. These results indicate acute toxicity of South Ditch sediment to the surrogate test organisms and a distinct possibility that the sediment represents a significant threat to benthic organisms likely to inhabit the area of the South Ditch. Numerous fish species, great blue herons, egrets and certain other waterfowl rely on these benthic organisms as food sources. In addition, some waterfowl, (e.g., mallard ducks) are dabblers, and could ingest the contaminated sediments.

Based on the risks identified in the qualitative human health risk assessment and the screening ecological risk assessment, the interim response action selected in this ROD is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

## **VIII. Remedial Action Objectives**

Remedial action objectives provide the foundation upon which remediation alternatives are developed. Remedial action objectives should reflect the U.S. EPA's remedy selection expectations, as presented in CERCLA and the National Contingency Plan ("NCP"). CERCLA establishes a preference for remedial actions that permanently and significantly reduce the volume, toxicity or mobility of hazardous substances, pollutants and contaminants [42 U.S.C. §9621(b)]. Furthermore, CERCLA states that the U.S. EPA shall select a remedial action that is protective of human health and the environment, that is cost effective and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable [42 U.S.C. §9621(b)]. The NCP provides that where practicable, the U.S. EPA expects to treat principle threats, employ engineering controls (e.g. containment) for low-level threats or where treatment is impracticable, use institutional controls to supplement engineering controls, consider using innovative technology and restore usable groundwater to beneficial uses wherever practicable [40 C.F.R. §300.430(a)(1)(iii)]. The remedial action objectives should reflect the reasonably anticipated or intended future use of the land. As the physical geographic setting of the south ditch prohibits residential development of the site, and considering the physical nature and setting of the site, remediation to protect future site construction workers and child trespassers, along with mitigation of ecological exposure to the south ditch sediments are appropriate.

The following Remedial Action Objectives were established in the draft Focused FS for the South Ditch OU 1 Interim Action:

- Mitigate the potential for flood water and water discharges to the South Ditch to

mobilize the unnatural sediment:

- Mitigate the potential acute exposure risk [SIC] to sensitive ecological and human receptors via contact with the unnatural sediment;
- Mitigate the potential for the on-site trespasser; and
- Be compatible with future site-wide remedies.

The proposed action does not contain specific chemical targets, but rather proposes to remove the unnatural sediment identified during the focused South Ditch RI and shown on Attachment A to this ROD. While the unnatural sediment is visually discernable from native material a visual standard is not believed appropriate due to the physical and color changes expected as a result of disturbance during the dredging action. It is understood that additional quantities of similar, less mobile, unnatural sediment likely exist immediately adjacent to the OU 1 (the south ditch) boundaries. The areas outside the boundaries of OU 1 will be addressed in the RI/FS and remedy selection process for OU 5 (DePue Lake).

## **IX. Description of Alternatives**

The draft Feasibility Study ("FS") and subsequent documents presented four primary remedial action alternatives with three sub-alternatives for detailed review. The four primary alternatives evaluated included: 1) No Action (Natural Recovery) with Monitoring; 2) Enhanced Natural Recovery; 3) an Above Grade Cap; and 4) Removal of the Unnatural Sediment with three sub-alternatives. Alternative #4 included Removal with Direct Reuse of the sediment, Removal of the Sediment with On-Site Consolidation, and Removal of the Sediment with Off-Site Disposal. The FS also evaluated a sub-aqueous capping scenario with three sub-alternatives related to water management after cap placement.

The four primary remedial action alternatives and three sub-alternatives carried through full evaluation were:

**Alternative 1: No Action (Natural Recovery) with Monitoring**

**Alternative 2: Enhanced Natural Recovery with Influent Surface Water Diversion**

**Alternative 3: Above-Grade Cap**

**Alternative 4: Removal of Unnatural Sediment with Sub-Alternatives**

**Alternative 4A: Removal of Unnatural Sediment with Direct Use**

**Alternative 4B: Removal of Unnatural Sediment with On-Site Consolidation**

**Alternative 4C: Removal of Unnatural Sediment with Off-Site Disposal**

**Common Elements:** All the remedial alternatives include common elements of short- and long-term monitoring. The short-term monitoring would include health and safety monitoring to ensure that site workers are not exposed to undue or unexpected risk and quality control monitoring to confirm the attainment of relevant performance criteria. Long-term monitoring would verify that the remedy performs as expected over time and would allow timely maintenance of physical components of the alternatives. All long-term monitoring referenced in this document assumes a 30-year monitoring period, as did

the draft South Ditch focused FS. The DePue Group included a monitoring provision in the "No Action" alternative, although monitoring is generally not considered in this alternative. The Illinois EPA and the U.S. EPA do not oppose the monitoring provision.

All alternatives except Alternative 1, No Action (Natural Recovery), include the common elements of institutional controls and certain surface-water control measures. The institutional controls would include warning signs and limited fencing. Additional institutional controls, such as deed restrictions, are not necessary on a short-term basis, but may be appropriate in the long term. Selection and implementation of long-term institutional controls is deferred, pending selection of final remedies for the entire site. Long-term institutional controls must be compatible with site-wide remedies. Alternatives 4B and 4C included stabilization of unnatural sediments.

### **Alternative 1: No Action (Natural Recovery)**

This is the baseline condition required by the NCP for comparison purposes, and it assumes that no direct remedial measures would be implemented at the site. This alternative relies solely on unaided natural recovery (natural siltation) of the study area, but as developed by the DePue Group and discussed above, does include both short- and long-term monitoring of the study area.

Estimated Capital Cost: \$0  
Estimated Annual O&M Cost: \$21,665  
Estimated Present Net Worth: \$429,000  
Estimated Months to Construct: 0  
Estimated Time for Natural Recover: 30 years

The cost in this and all following Alternatives are taken from the 1997 draft Focused FS and no attempt to adjust for inflation has been made.

### **Alternative 2: Enhanced Natural Recovery with Influent Surface Water Diversion**

This alternative would involve construction of a series of check dams across the study area, with surface-water control features to retain the unnatural sediment within the study area and increase the natural deposition of silt over the study area. Additionally, Alternative 2 would include the common elements of monitoring and institutional controls.

Estimated Capital Cost: \$608,000  
Estimated Annual O&M Cost: \$28,662  
Estimated Present Net Worth: \$1,176,000  
Estimated Months to Construct: < 6 months  
Estimated Time for Natural Recover: 5 to 15 years

### **Alternative 3: Above-Grade Cap**

This alternative would redirect surface water flows to a new drainage way to replace the South Ditch in-situ (in-place) stabilization of the unnatural sediment. A solid waste landfill style above-grade cap would be constructed over the stabilized unnatural sediment along the current path of the South Ditch. Additionally, Alternative 3 would include the common elements of monitoring and institutional controls.

Estimated Capital Cost: \$946,000  
Estimated Annual O&M Cost: \$22,330

Estimated Present Net Worth: \$1,387,000  
Estimated Months to Construct: < 6 months

#### **Alternative 4: Removal of Unnatural Sediment with Sub-Alternatives**

Each sub-alternative under the Removal of Unnatural Sediment has the common elements of short-term surface water diversion, short-term spring water diversion, removal of the unnatural sediment (via mechanical and / or hydraulic dredging) and dewatering of the removed sediment. The primary differences between sub-alternatives 4A, 4B and 4C are the dispositions of the unnatural sediment following removal and dewatering.

Each sub-alternative in Alternative 4 would comply with the requirements of Section 404 of the Federal Water Pollution Control Act (also known as the "Clean Water Act" or CWA) via U.S. Army Corps of Engineers Nationwide Permit 38 (Cleanup of Hazardous and Toxic Waste), 35 Illinois Administrative Code 304, and Section 401 of the CWA. Through the testing procedures outlined in Section 401 of the CWA, specific sediment and water management techniques and materials will be selected to comply with Best Management Practices, thus minimizing any potential non-compliance with Section 401.

The existing and operating Interim Water Treatment Plant (IWTP) will be utilized to the maximum extent practical (to the limit of available capacity) to further reduce any non-compliance potential. Current IWTP discharges are consistent with all applicable state and federal regulations.

#### **Alternative 4A: Removal of Unnatural Sediment with Direct Use**

Following failure to show progress on resolution of differences on the South Ditch Focused FS, this alternative became unavailable because of a withdrawal of interest by the potential user (a local high zinc and copper micro-nutrient fertilizer manufacturer).

#### **Alternative 4B: Removal of Unnatural Sediment with On-Site Consolidation**

This alternative involves the common elements discussed above with construction of a Corrective Action Management Unit (CAMU) to contain the physically- and chemically-stabilized unnatural sediment. This CAMU would be constructed consistent with 35 Illinois Administrative Code 724. The unnatural sediment would be held in the on-site CAMU, pending selection of final remedies for the plant site. The CAMU would be constructed over an area of contaminated soil and ground water, utilizing a recompacted clay layer, a high-density polyethylene (HDPE) or similar liner and an aggregate drainage layer as a liner under the stabilized sediment. The CAMU would be covered with a recompacted clay layer over the stabilized sediment, with the clay cover layer designed to shed water away from the interior of the CAMU. This clay cover layer would be monitored to insure maintenance of protectiveness. Any water collected in the aggregate drainage layer would be periodically transferred to the existing Interim Water Treatment Plant for treatment.

Estimated Capital Cost: \$1,677,000  
Estimated Annual O&M Cost: \$11,000  
Estimated Present Net Worth: \$1,895,000  
Estimated Months to Construct: <6 months

#### **Alternative 4C: Removal of Unnatural Sediment with Off-Site Disposal**

This alternative utilizes the common elements discussed above and would ship the stabilized unnatural sediment off-site for disposal at a permitted, compliant, non-hazardous waste landfill.

Estimated Capital Cost: \$2,404,000

Estimated Annual O&M Cost: \$0

Estimated Present Net Worth: \$2,402,000

Estimated Months to Construct: < 6 months

### **X. Comparative Analysis of Alternatives**

Nine criteria are used to evaluate remediation alternatives, individually and against each other, to select a remedy. The nine evaluation criteria are: (1) overall protection of human health and the environment; (2) compliance with Applicable or Relevant and Appropriate Requirements (ARARs); (3) long-term effectiveness and permanence; (4) reduction of toxicity, mobility, or volume of contaminants through treatment; (5) short-term effectiveness; (6) implementability; (7) cost; (8) state/support agency acceptance; and (9) community acceptance [40 C.F.R. §300.430(e)(9)(iii)]. This section of the ROD profiles the relative performance of each alternative against the nine criteria and compares the alternative to the other options under consideration. The nine evaluation criteria are discussed below. A "Detailed Analysis of Alternatives" is contained in the draft FS.

**1. Overall Protection of Human Health and the Environment** determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through *institutional controls, engineering controls, or treatment*. Alternatives #1 and #2 are not protective of human health and the environment; Alternative #2 was not considered further as a result. Alternative #1 was carried forward only in consideration of guidance and policy to document the baseline condition and the impacts of no action. Alternative #3 effectively eliminates the short-term human health risks posed by the South Ditch Sediment and substantially reduces the environmental risk. Alternative #3 does not fully mitigate the flood migration of the sediments and therefore is not protective. Alternative #3 is not carried any further through this analysis. Alternative #4 (with its sub-alternatives) is protective of human health and the environment and fully satisfies the remedial action objectives.

**2. Compliance with ARARs** evaluates whether the alternative meets federal and state environmental statutes, regulations and other requirements that pertain to the site or whether a waiver is justified. Alternative #3 does not meet state and federal ARARs relating to construction of waste disposal units in the flood plain and allowing monitoring of the effectiveness of the containment, nor does this alternative justify invocation of an ARAR waiver, therefore it is not carried forward through further detailed analysis. Alternative #4-A does not currently comply with ARARs and the interest by the potential (a former local fertilizer manufacturer) user was withdrawn prior to presentation of the Proposed Plan. Alternative #4-A is therefore not carried forward in further analysis in this ROD.

Alternatives #4-B and #4-C can comply with ARARs or, through the required treatability studies, may produce data that could substantiate for use as part of a Technical Impracticability waiver, pursuant to section 121(d)(4)(C) of CERCLA, if such were to become available, or validate the use of other optional avenues of administrative relief.



Alternative #4-B with administrative relief from ARARs is considered a contingent remedy to Alternative #4-B with full ARAR compliance. The potential need for ARAR relief, the administrative encumbrances currently being encountered by the Illinois EPA in accessing ARAR waiver authority, and various alternative mechanisms to access ARAR relief were topics discussed in the public presentation of the Proposed Plan, and are a reasonable outgrowth of the overall remedy selected in this ROD. An Explanation of Significant Difference (ESD) will be completed if Alternative #4-B with administrative relief from ARARs is implemented. No further public comment, hearings, etc will be necessary.

A list of the ARARs identified for the selected remedy is located in Section XIII of this document. Alternatives #1, #2 and #3 are dropped from further discussion due to their failure to meet the threshold criteria of Protectiveness and ARAR compliance.

**3. Long-term Effectiveness and Permanence** considers the ability of an alternative to maintain protection of human health and the environment over time. At this site, the concerns of Long-term Effectiveness and Permanence relate to the aggressive, highly erosive setting presented by changing water levels, wave action, flooding and other forces within the dynamic area of the annual flood plain of DePue Lake and the Illinois River.

Alternatives #4-B and #4-C remove the highly mobile unnatural South Ditch sediment from the environment and fully meet the criteria of Long-term Effectiveness. The on-site interim containment cell in Alternative 4-B is not proposed to be a permanent stand-alone unit, but for the purposes of this Interim Action meets the criteria of Permanence. Alternative #4-C, which utilizes off-site disposal, meets the criterion of Permanence.

**4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment** evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment and the amount of contamination present.

Alternatives #4-B and #4-C both offer substantial reduction in Mobility and Volume through removal of the unnatural sediment from the South Ditch with dewatering, and with the use of appropriate admixtures to dry and stabilize the unnatural sediment, can reduce Toxicity.

**5. Short-term Effectiveness** considers the length of time needed to implement an alternative and the risk the alternative poses to workers, residents and the environment during implementation. All of the alternatives carried forward through the threshold criteria of Overall Protection of Human Health and the Environment and Compliance with ARARs meet the criteria of Short-term Effectiveness equally well, except Alternative #1 which is carried forward as a matter of comparison. Alternatives #4-B, and #4-C can each be completed in less than 6 months of actual construction time.

**6. Implementability** considers the technical and administrative feasibility of implementing the alternative such as relative availability of goods and services. Alternatives #4-B and #4-C are readily implementable, and can be constructed using standard construction techniques and materials. However, construction of each is weather dependent and must be undertaken during the summer construction season. Alternative #4-B would require construction of support structures in the fall of the year preceding the actual removal of sediments from the South Ditch to utilize the full summer season for dredging activity.

Some questions exist regarding the ability of Alternatives #4-B and #4-C to comply with ARARs and this may affect the implementability of either of these alternatives. The ARAR compliance and implementability issue cannot be assessed until a series of treatability studies are completed. These treatability studies are expected to be completed within 90 days following execution of this ROD.

7. **Cost** includes estimated capital and operation and maintenance cost, as well as present worth cost. Present worth cost is the total cost of an alternative over time. The costs presented here and in the tables were extracted from the 1997 draft Focused Feasibility Study. No attempt has been made to adjust the costs for inflation or the impacts of changes in regulations. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

**Summary Table of Alternative Cost and Time to Complete**

Alternative #	Alternative #1	Alternative #4B	Alternative #4C
Estimated Capital Cost:	\$0	\$1,677,000	\$2,404,000
Estimated Annual O&M Cost:	\$21,665	\$11,000	\$0
Estimated Present Net Worth:	\$429,000	\$1,895,000	\$2,402,000
Estimated Time to Construct:	0 years	< 6 months	< 6 months
Estimated Time to fully implement remedy	30 years	< 6 months	< 6 months

A summary of capital and operation and maintenance cost for each alternative is presented in the **Summary Table of Alternative Cost and Time to Complete** located at the end of this section of the ROD.

8. **State/Support Agency Acceptance** considers whether the U.S.EPA agrees with the state analyses and the recommendations of the RI/FS and the Proposed Plan. The U.S. EPA has reviewed this ROD and supports the Preferred Remedial Alternative.

9. **Community Acceptance** considers whether the local community agrees with the state's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance. The Proposed Plan, presented in a formal public hearing, indicated that Alternative #4B was the option preferred by the Illinois EPA and the U.S. EPA.

The Board of Trustees of the Village of DePue and the Bureau County Board submitted comments in the form of Board Resolutions. These two resolutions supported Alternative #4C and expressed opposition to Alternative #4B. Neither of the resolutions indicated why the Boards supported Alternative #4C and opposed the Illinois EPA's preferred alternative (Alternative #4B). Response to the Board Resolutions is contained in Response to Comment #1 in the Responsiveness Summary attached to this ROD.

A number of comments indicated concerns about the potential for contaminant releases during implementation of the remedy. The Illinois EPA can generally summarize the concerns as issues covered during work plan development and remedy implementation oversight. These comments are also addressed in the Responsiveness Summary.

One member of the DePue group (ViaCom) submitted a series of comments about ARAR waivers, the Illinois EPA's inability to issue those waivers and the presumed degree of difficulty in implementing the project without those waivers. All of these comments are addressed in the attached Responsiveness Summary.

The Illinois Dept. of Natural Resources expressed their support for the proposed interim action. The remaining comments were related to remedy implementation and while they have some impact on design and construction, they do not impact remedy selection.

## **XI. Principal Threat Waste**

The unnatural sediments meet the definition of a principal threat waste because they are highly toxic and easily mobilized and will be removed from the South Ditch OU 1 as part of the interim remedial action selected in this ROD. Those principal Threat wastes will be dewatered, chemically and physically stabilized and transferred to an environmentally secure containment cell, pending incorporation into a final remedy for one or more waste units existing on site and containing significantly larger volumes of chemically similar material.

## **XII. Selected Remedy**

### **Summary of the Rationale for the Selected Remedy:**

The selected Interim Action remedy for the New Jersey Zinc/Mobil Chemical site, South Ditch Operable Unit 1, is **Alternative # 4B Removal of Unnatural Sediment with On-Site Consolidation**, as generally discussed in Section IX. This is the Preferred Alternative presented in the Proposed Plan. The selection of this interim action is based on full consideration of the public comments received on the Proposed Plan.

The selected alternative provides the best balance of trade-offs (with respect to the balancing and modifying criteria) for the following reasons:

The selected alternative is protective and can be conducted in such a way as to comply with ARARs.

Long Term Effectiveness, while a consideration, is not a mandatory component in selection of an Interim Action Remedy. However, Long Term Effectiveness is plausible with this alternative, because the principal threat will have been removed from the dynamic Lake DePue environment and contained in a temporary, but secure on-site containment unit. Ultimately, the unnatural sediment will be managed in concert with much larger quantities of chemically similar materials in a final remedy for one or more of the on-site operable units. Long Term Effectiveness must be considered in the selection of any potential final remedy.

Reduction of Toxicity, Mobility, or Volume Through Treatment will be accomplished by removing the unnatural sediment from the current highly mobile setting and dewatering the removed sediment. The dewatered sediment would then be physically stabilized and receive some additional chemical fixation, through the addition of the same stabilizing agents. Chemical fixation is not a requirement of this ROD but only an ancillary benefit of most physical stabilization agents. Full chemical stabilization will be a consideration for the final remedy of the unnatural sediments and other on-site waste. The volume of unnatural sediments may not be reduced substantially; however, this cannot be fully assessed until completion of treatability studies.

Reductions in Toxicity, Mobility, or Volume Through Treatment are not a driving consideration during the selection process of an Interim Action. This issue can be deferred until selection of the final remedy, and to some extent, this will be done in this case. By maintaining the material in a discrete storage unit with much larger quantities of chemically similar material, the unnatural sediment remains a candidate for technologies such as metals recovery. This alternative and other resource-recovery alternatives may prove viable during the remedy selection process for other units such as the primary zinc smelter slag pile.

Short Term Effectiveness is provided by the removal of the material from the flood plain, setting and transferring it to a secure unit. The dredging action will remove the material from the flood plain and the Lake DePue system, preventing any future ecological exposure. Placement of the unnatural sediment in a secure unit will also restrict access to that material and isolate it from the child trespasser. During the actual interim remedial action, the potential for exposure of construction workers to the unnatural sediment will increase; however, that exposure can be managed by rigorous attention to the required health and safety plan and by following good construction practices.

Implementability of the Selected Alternative can be achieved. Until the treatability studies discussed below have been completed, the degree of difficulty associated with implementability cannot be fully assessed. The PRPs challenge the implementability of the alternative without ARAR waivers. This challenge is premature and primarily related to their second challenge of cost effectiveness addressed below. The Illinois EPA remains convinced that Alternative #4B can be implemented. The only question is the degree of treatment necessary for decant water prior to return to the South Ditch work area. The degree of treatment drives the cost of treatment and impacts the duration of field activity associated with the dredging and dewatering efforts. The Illinois EPA will use its best efforts to acquire ARAR waiver authority and to exercise that authority if warranted to insure implementability and expedite the project. If, due to issues of technical impracticability as verified by treatability studies, the implementability of the selected remedy is jeopardized, the Illinois EPA further commits to reopen this ROD for selection of another of the alternatives, proposal of a new remedy entirely, or any other action which will facilitate remediation of the South Ditch unnatural sediments. If this ROD is reopened in this fashion an Explanation of Significant Difference, ROD amendment, or other appropriate administrative document will be completed and the community participation requirements of the NCP will be met.

As an alternative to obtaining a waiver of the ARARs, the PRPs can apply to the Illinois Pollution Control Board (PCB) for an adjusted standard for those concentration limits it can justify to the PCB warrant such relief. The Illinois EPA does not presently support nor object to such relief, as the PRPs have not made such a proposal and supplied supporting information for such relief. The PRPs would need to provide such justification as required under all applicable PCB regulations, as well as justification provided by treatability studies and other research in order to support such a request.

Cost of the Selected Alternative is reasonable, considering the substantial risk reduction that will be achieved so long as water treatment requirements remain within the limits of technical practicality.

U.S. EPA Acceptance of the Selected Alternative has been acquired.

Community Acceptance of Alternative #4B was the subject of many comments. The Illinois EPA proposed Alternative #4B as the suggested alternative to the remedy.

Several commenters suggested Alternative #4C as their preference, however, there was no specific rationale for their support of the off-site disposal alternative (#4C) over the on-site consolidation proposal (#4B). As discussed in the attached Responsiveness Summary, the addition of the South Ditch unnatural sediments to the existing on-site waste is expected to produce no more than a 0.4 to 1.0 percent increase in material remaining on-site after all remedies are completed. A second group of comments discussed ARAR waiver issues. These are addressed to a limited extent earlier in this section in the discussion of Implementability and further in the responsiveness summary attached. The remaining public comments were primarily focused on issues of implementation and are generally valid considerations for design of the remedy and Illinois EPA's oversight of the project. A full summary of public comments and the Illinois EPA's responses are contained in the Responsiveness Summary attached to this ROD.

### **Description of the Selected Remedy:**

Based on the rationale presented above, Alternative #4B is the Selected Remedy for the South Ditch Unnatural Sediments Operable Unit 1 Interim Action at the New Jersey Zinc/Mobil Chemical site. Alternative #4B consists of the following major remedy components:

#### **1) Treatability Studies**

Prior to the design of the Unnatural Sediments Interim Action, a series of treatability studies will be necessary to determine the following:

- Appropriate admixtures and dosage rates to achieve adequate contaminant removal from discharge water streams.
- Retention (settling) time required in decant basins.
- Assessment of physical treatment enhancements likely to assist in meeting discharge criteria (i.e. high volume sand filtration).
- Pilot evaluations of mechanical techniques for high solids sediment removal.
- Physical stabilization and chemical fixation agents, mixing rates and curing times required prior to placement of sediment in the Interim Containment Cell.
- Silt fence material selection, placement and maintenance frequency.
- Cost analysis of the various alternatives that produce favorable results.

The implementation of the Treatability Studies will be consistent with work plans, quality assurance/quality control documentation and schedules to be reviewed and approved by the Illinois EPA.

#### **2) Design of Interim Unnatural Sediments Action**

It is likely that the design of this Interim Action will proceed in two distinct design phases. Phase 1 will cover design of the settling basins (decant ponds) and the interim containment cell. Phase 2 will detail the mechanics of the hydraulic dredging of unnatural sediments, material handling, placement of the stabilized unnatural sediment into the interim containment cell and the capping of the interim containment cell. This bifurcated design is required so that construction of the settling basins and the interim containment cell can be completed in the fall and early winter of 2003 and dredging of the sediment can begin as soon as weather allows in the early summer of 2004. By constructing the support structures in the fall of 2003, the project will be less impacted by an inordinately wet spring in 2004, if such were to occur. Certain components of the interim action design documents discussed below may be accomplished in the form of Work Plans, if so chosen by the implementing bodies.

This option will facilitate more rapid remedy implementation, if the responsible parties propose a "design and build" contractor, as opposed to separate design and construction firms.

**Phase 1** - Design of the settling basins (decant ponds) will incorporate the results of the treatability studies to insure the size of the ponds will be adequate to allow the required retention time and achieve appropriate solids removal. The design must also make provisions for the incorporation of appropriate admixtures required to achieve adequate removal of dissolved and slow settling contaminants from the decant water return flow. It is presumed that physical and chemical stabilization agents will be mechanically added to the unnatural sediment prior to removal of that material from the settling lagoons. The design of the basins must allow for incorporation of those admixtures without degrading the containment component of the basins. In addition, the minimum design standards stipulated in the ARARs must be met by the basin designs.

The results of the stabilization admixture selection component of the treatability studies will allow the bulk volume of unnatural sediment to be estimated after it has been dewatered and the stabilization and fixation materials have been added. This bulk volume will be applied to the design of the interim containment cell to insure adequate, but not excessive, cell size is prepared. Additionally, the design of the interim containment cell will comply with the recently promulgated Corrective Action Management Unit (CAMU) regulations as they relate to minimum design standards in addition to all other indicated ARARs.

The interim containment cell will be constructed over contaminated soil in an area of preexisting groundwater contamination. The bottom and sidewalls of the cell will generally consist of a graded layer of low-permeability soil, a synthetic impermeable liner and an aggregate drainage layer under the stabilized unnatural sediments. The slope of the bottom and the aggregate drainage layer will be installed so that leachate within the interim containment cell can be extracted without disrupting the cell and in a manner that will maintain the saturated thickness at less than 30 centimeters (slightly less than 12 inches). It is currently anticipated that the interim containment cell will be constructed near the northwest corner of the primary zinc smelter slag pile. The design and placement of the containment cell must consider the results of the draft Phase I Soil and Groundwater Remedial Investigation Report to insure the cell will be compatible with future investigative and remedial efforts at the site, consistent with the requirements of the Interim Consent Order.

**Phase 2** – The design of the mechanical/hydraulic dredging, material handling, material placement in the interim containment cell and capping of the cell can be deferred until late 2003 or early 2004. The remedial design will be based on the results of the silt fence material selection and management component of the treatability study and will obligate the implementing contractor to set appropriate silt fence material at specified maximum separation distances. The design will also establish cleaning, maintenance, and replacement frequencies for the silt fences. The minimum liquid retention times determined in the treatability studies will dictate the appropriate size of the settling basin(s) in the design. The minimum retention times will also determine the maximum flow rates of hydraulic dredge material transferred to the settling basins and the maximum number of cubic yards of mechanically dredged material that can be managed during a given time period. If high solids mechanical dredging is a significant component of the implementation plan, the design will set minimum and / or maximum standards (as appropriate) for types of

equipment, fall back of material to the dredge work area, equipment loading rates (pounds per square inch) on areas surrounding the South Ditch, and material handling techniques to be utilized to transfer dredge spoil to the stabilization area. Additionally all other applicable criteria contained in the Remedial Design / Remedial Action guidance will be addressed.

The selection of specific admixtures (e.g., kiln dust, fly ash, proprietary drying agents and metals fixation compounds), mixing rates and curing times will be determined in the treatability studies. The remedial design will produce the most expeditious mixing procedures and will suggest appropriate end point measurements.

The interim action design documents will provide direction on the acceptable mechanical and hydraulic dredging techniques to be employed during implementation, as well as the appropriate dredging sequence to be employed. The mechanisms to be used for the transfer of unnatural sediment material from the working dredge cells to the settling basins and the transfer rates of unnatural sediment to the settling basins will be included. The design documents will also project return water flow volumes and provide generalized information on mechanisms to remove stabilized sediment from the settling basins and to transfer the stabilized sediment from the settling basins to the interim containment cell. Techniques of placing stabilized unnatural sediment in the interim containment cell and procedures and materials to be used to comply with the minimum standards applicable to the interim containment cell will also be contained in the design documents.

A separate material handling component of the design documents will address the location and construction of all access and haul roads required to implement the interim action. This component of the design must also present mechanisms to achieve compliance with all nuisance dust regulations and procedures to otherwise limit or preclude airborne emissions from all work areas of the project. Currently approved Dust Control documents contain a "No Visible Dust" standard and will be rigorously enforced by the Illinois EPA at the South Ditch work area and all associated material handling locations.

The final segment of the physical construction design documents will define the construction of the interim containment cell cap. The design of this cap must comply with the CAMU regulations and all other indicated ARARs, as well as the load bearing limits of the stabilized unnatural sediments and the physical setting chosen for location of the cell. Generally, this cap must contain a synthetic impermeable over-liner, a clay cover layer, and a vegetative or other erosion-protective layer. The types of materials, their minimum thicknesses and permeabilities must comply with the CAMU regulations and guidance, and all other ARARs.

A monitoring and maintenance plan for the interim containment cell must be included in the design documents described above. The monitoring and maintenance plan must address measurement of leachate thickness within the interim containment cell, removal and treatment of that leachate when levels exceed the stipulated level, inspection and maintenance of the cap and a groundwater monitoring plan that is specific to the interim containment cell.

### **3) Implementation of Alternative 4B – Removal of the Unnatural Sediments with On-Site Consolidation**

Immediately following execution of this ROD, the PRPs will be directed to initiate the Treatability Studies described above. When the treatability studies have been

completed to the satisfaction of the Illinois EPA, the PRPs will proceed with the Phase 1 components of the Interim Action Design. As this work is being conducted under the authorities of the existing ICO, no delays to negotiate legal instruments are anticipated. This Interim Action is generally consistent with a May 1998 proposal presented by the PRPs except in areas where that proposal ignored or failed to comply with ARARs. The PRPs have expressed concern over the implementability of the remedy absent ARAR waivers but have thus far produced no data to support their position. Comment submitted by the PRPs relative to the Proposed Plan indicate an intention to invoke dispute resolution if this ROD goes forward absent ARAR waiver provisions, however those comments are groundless absent data to support their position. The data required to adequately support the PRPs potential invocation of dispute resolution will be provided via the treatability studies required by this ROD. If following the required treatability studies the technical impracticability of the Alternative #4-B is apparent and ARAR waiver authority or another avenue of administrative relief from ARARs does not exist (the contingent remedy Alternative #4-B with administrative relief from ARARs), dispute resolution will not be required because, the Illinois EPA commits by this ROD to revisit the issue of remedy selection in it's entirety.

The current conceptual schedule for implementing this interim action anticipates completion of the design and initiation of the infrastructure construction in late September or early October of 2003. This schedule is driven by the need to complete construction of the settling basins and the interim containment cell prior to the seasonally normal dry period from June through September 2004. The June to September time frame is the only realistic period for sediment dredging activity. Therefore, the settling basins and interim containment cell should be nearly complete before the winter of 2003, so that they will be available for use early in the following summer (from June through September 2004). The settling basins and the interim containment cell will be constructed consistent with the design documents. By following the conceptual schedule outlined above, the construction of the basins and cell will not be delayed by an inordinately wet, spring construction season.

In the early summer of 2004, the unnatural sediments removal portion of the interim action will begin with the placement of silt fences, dewatering structures (ditches, dikes and well points) and storm water diversion structures. All activities associated with this interim action will be included in work plans that will have been previously approved by the Illinois EPA. As previously noted, this activity is dependent upon weather conditions and is not expected to begin until the Illinois River and Lake DePue are at (or near) normal pool elevations. It is expected that the actual dredging of unnatural sediments will proceed until completion, except for the time period that the American Power Boat Association (APBA) National Championship races are held on DePue Lake. In recognition of the importance of these races to the community, and the interference the dredging activity will have on those races, the following prohibition is included in this ROD: No construction-related activity except maintenance and/or repair of silt fences, water diversion structures, and dewatering structures will occur greater than 1000 feet south of the origins of the South Ditch from 7:00 AM, July 23 through 7:00 PM on August 2, 2004. Between July 23 and August 2, 2004 the APBA will control access to DePue Lake and all remedial activity will adhere to that associations lake access requirements. Other activities deemed critical by the PRPs or the Illinois EPA to protect human health or the environment may be authorized by the Illinois EPA project manager after consultation with appropriate APBA officials.



The actual sequence and mechanics of dredging, transfer of material from the South Ditch to the settling basins, dewatering, stabilizing and transferring to the interim containment cell are, as yet, undetermined. All activities associated with this interim action will be included in work plans that will be reviewed and approved by the Illinois EPA prior to implementation. When practical, approved work plans will be placed in the public repository prior to initiation of an activity, to facilitate public awareness. The work plans will not be the subject of public comment and will be provided only for public information and awareness. This public availability is deemed appropriate because of the limited viewing access to the work area and the general public's interest in this project.

After the interim containment cell is capped, it will be seeded with appropriate vegetation to limit wind and water erosion and to assist in the overall site water balance. This seeding may not occur until the spring of 2005, depending on the completion of the covering in 2004. When the cover soil layer is in place, the unit-specific, groundwater-monitoring plan will be implemented. Groundwater monitoring around the containment cell will continue until the South Ditch unnatural sediment is incorporated into a final remedy at the site.

It should be noted that the selected remedy may change somewhat as a result of the treatability studies, remedial design and construction processes. Changes to the selected remedy described in the ROD will be documented using a technical memorandum in the Administrative Record, an Explanation of Significant Difference or a ROD amendment, as appropriate.

**Summary of the Estimated Remedy Cost:** The capital cost for the selected remedy is estimated to be \$1,677,000. Operation and maintenance costs for Year 1 are estimated to be \$11,000 (projected in the FS to be required for 33 years), and total present worth costs are estimated to be \$1,895,000. Cost details for the selected Interim Remedy (and the other alternatives considered) are located in Section X. of this ROD in the Table entitled "Summary Table of Alternative Cost and Time to Complete." All costs presented in this ROD and in the Proposed Plan were taken from the draft 1997 Feasibility Study and no attempt has been made to adjust them for inflation.

**Expected Outcomes of the Selected Remedy:** This Interim Action will result in the removal of a primary threat waste to a secure, stable location. The unnatural sediment has demonstrated a high potential to cause significant ecological injury and the potential to cause adverse human health affects. Also, the unnatural sediment is in a highly mobile location and can very easily migrate away from the South Ditch and spread the potential health and ecological impacts to a larger area of DePue Lake. As a result of this Interim Action, the primary threat waste will be stabilized and placed in a secure containment facility with significantly improved access limitations.

**Cleanup Levels:** No specific chemical concentration action limits are established in this ROD. The Interim Action described herein will remove the approximately 7,900 cubic yards of unnatural sediment identified by the 1996 Focused South Ditch Remedial Investigation as shown on Attachment A to this ROD. The boundaries of OU#1 are included within the limits of OU#5 (DePue Lake) and chemical specific action limits will be established in one or more RODs covering OU#5.

### **XIII. Statutory Determinations**

Under CERCLA Section 121 and the National Contingency Plan: the lead agency must select remedies that are protective of human health and the environment, comply with applicable or relevant and appropriate requirements (unless a statutory waiver is justified), are cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition, CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous wastes as a principal element and is biased against off-site disposal of untreated wastes. The following sections discuss how the Selected Remedy meets these statutory requirements.

#### **Protection of Human Health and the Environment:**

The Interim Action selected in this ROD will adequately protect human health and the environment until the completion of the selected remedies for the entire South East area of the site. Exposure levels will be reduced to U. S. EPA's generally acceptable risk range of  $10^{-4}$  to  $10^{-6}$  for carcinogenic risk and below the hazard index of 1 for non-carcinogens. The implementation of the selected remedy in the ROD will not pose unacceptable short-term risk or cross-media impacts. This Interim Action will also substantially mitigate the current ecological risks presented by the South Ditch unnatural sediment.

#### **Compliance with Applicable or Relevant and Appropriate Requirements ("ARARs"):**

The selected remedy for the unnatural sediment from the South Ditch has a reasonable potential to comply with all the ARARs identified for the alternative. If, following completion of the required treatability studies, compliance with ARARs is demonstrated to be either technically impracticable or impossible; the Illinois EPA (if authorized) will consider appropriate action to seek waiver or other administrative relief from the encumbering ARARs.

#### **Chemical, Location, and Action-Specific ARARs include the following:**

- Federal Water Pollution Control Act Section 404
- Illinois Administrative Code part 304 (35 IAC, 304)
- U.S. Army Corp of Engineers Nationwide Permit #38
- Clean Water Act FWQC (40 CFR Part 403).
- Federal Water Pollution Control Act Section 401
- Clean Water Act National Pollution Discharge Elimination System ("NPDES") Permit Program (40 CFR 122)
- Dewatering basin construction and operation (35IAC 309.202 and 309.203).
- Corrective Action Management Unit (CAMU) requirements (35 IAC 724 Subpart S)
- Closure and Post-Closure requirements (35 IAC 724)
- Illinois Fugitive Dust Standards (35 IAC 212.301)
- Illinois Sound Emission Standards and Limitations (35 IAC 900 & 901)

· Illinois Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (35 IAC 724, 725)

· Illinois Dept. Of Public Health, Illinois Water Well Construction Code (Section 920) as related to monitoring well construction and closure

**Other Criteria, Advisories, or Guidance To Be Considered (“TBCs”) for This Remedial Action:**

· Illinois Tiered Approach to Clean-up Objectives (35IAC 742)

In implementing the Selected Remedy, the Illinois EPA, and U.S. EPA have agreed to consider a number of non-binding criteria that are TBCs. These include the guidance on designing RCRA caps, Draft RCRA Guidance Document, Landfill Design, Liner Systems and Final Cover, issued June 1982. The guidance on designing RCRA caps includes specifications to be followed in constructing and maintaining a RCRA cap.

**Cost-Effectiveness:**

The Illinois EPA considers the selected remedy to be cost-effective and a reasonable value for the money to be expended. In making this determination, the following definition was used: “A remedy shall be cost-effective if its costs are proportional to its overall effectiveness.” (NCP §300.430(f)(1)(ii)(D)). The “overall effectiveness” of the alternatives that satisfied the threshold criteria (i.e., were both protective of human health and the environment and ARAR-compliant) was assessed against three of the five balancing criteria in combination (long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness). Overall effectiveness of the alternatives was then compared to costs to determine cost-effectiveness. The relationship of the overall effectiveness of the selected remedial alternative was determined to be proportional to its costs and therefore represents a reasonable value for the money to be spent.

The one caveat that must be stated relative to cost effectiveness of this remedy relates to the Technical Impracticability issue discussed above. Following completion of the treatability studies required by this ROD the issue of cost effectiveness must be revisited as a component of the assessment of the Technical Impracticability of the remedy.

The estimated total present worth cost of the selected remedy (Alternative #4B) is \$1,895, 000. Alternative #4C is \$507,000 more expensive, achieves no additional short-term risk reduction, and negates any potential for future metals recovery from the unnatural sediment. Therefore, the selected remedy is cost-effective.

**Utilization of Permanent Solutions and Alternative Treatment (or Resource Recovery) Technologies to the Maximum Extent Practicable (“MEP”):**

As an Interim Action, the selected remedy is not required to meet the permanence and alternative treatment technologies criteria. The selected remedy does, however, provide permanence, compared to the No Action and In-Situ Containment Alternatives. The final remedy(s) for the unnatural sediments and for the South Area of the site are both expected to meet the criteria of permanence. Furthermore, the selected remedy, through stabilization, contains a significant treatment component and will (via on-site containment in a discrete unit) preserve the Resource Recovery potential of this high concentration metal-bearing waste, if such becomes cost effective prior to implementation of the final remedy.

The Illinois EPA has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the site. Of those alternatives that are protective of human health and the environment and that comply with ARARs, the selected remedy provides the best balance of trade-offs (in terms of the five balancing criteria), while also considering the statutory preference for treatment as a principal element, the bias against off-site treatment and disposal and acceptance of the remedy by the U.S. EPA and the community.

**Preference for Treatment as a Principal Element:**

The statutory preference for remedies that employ treatment as a principal element is met. Removal from the dynamic South Ditch along stabilization will achieve a reduction in toxicity and mobility of the metals contamination in the unnatural sediment. As an Interim Action, full and active treatment is not currently warranted. When the final remedy for the unnatural sediments of OU 1 and remedies for OUs 3 and 5 are selected, a more thorough effort to comply with the statutory preference for remedies that employ treatment as a principal element will be required.

**XIV. Documentation of Significant Changes**

The Proposed Plan was released for public comment in October 2002. The Plan identified Alternative #4-B, the interim action of removal of the unnatural sediment with on-site consolidation as the Preferred Alternative for remediation. Extensive discussion of the ARAR waiver issue occurred during the formal public hearing presentation of the Proposed Plan and the fact that Alternative #4-B with administrative relief from ARARs was a contingent remedy.

After considering the nine criteria of remedy selection guidance and with the support of the U.S. EPA, the Illinois EPA has chosen the preferred alternative #4B, with alternative #4B with administrative relief from ARARs maintained as a contingent remedy, as the Interim Action Remedy for the South Ditch Unnatural Sediments OU 1. Therefore, no significant change has been made to the Proposed Plan. Further information on this selection and the consideration of public comment is summarized in the Responsiveness Summary attached to this ROD and is available in the Administrative Record file for the site.



Illinois  
Environmental  
Protection Agency

Office of Community Relations  
1021 North Grand Ave. East  
Springfield, Illinois 62794-9276

---

# Responsiveness Summary

## South Ditch Unnatural Sediments Proposed Plan and Alternatives

New Jersey Zinc/Mobil Chemical  
Superfund Site

DePue, Illinois

September 2003

## TABLE OF CONTENTS

I.	OVERVIEW .....	1
II.	COMMUNITY INVOLVEMENT BACKGROUND AND CONCERNS.....	2
III.	KEY ISSUES .....	5
IV.	SUMMARY OF PUBLIC COMMENTS AND ILLINOIS EPA RESPONSES.....	6

### STAKEHOLDER ISSUES

1.	Preference for Alternative 4C.....	6
2.	Interim Storage Unit .....	7
3.	Possibility of Contaminants from the Slag Pile Recontaminating the South Ditch ....	9
4.	Slowness of the Process .....	11
5.	Support of Proposed Plan .....	11
6.	Other Concerns .....	11

### EXPANDED TECHNICAL AND LEGAL ISSUES

7.	Effluent and/or Water Quality Standards .....	13
8.	Waivers of Effluent and Water Quality Standards .....	14
9.	Proposed Plan: Content and Process.....	18
10.	Extension of Comment Period.....	21
11.	Role of the U.S. EPA.....	21
12.	Other Issues .....	22

### APPENDICES

#### V. ACRONYMS

#### VI. GLOSSARY

#### VII. ATTACHMENTS

- Attachment 1 History of Major Illinois EPA Community Relations Activities
- Attachment 2 Selected U.S. EPA Policy Documents on Waivers

# Responsiveness Summary

## Public Comment on the Proposed Plan and Alternatives for the South Ditch of the New Jersey Zinc/Mobil Chemical Superfund Site

DePue, Illinois

September 2003

### OVERVIEW

In accordance with Section 117, 42 U.S.C. Section 9617, of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the Illinois Environmental Protection Agency (Illinois EPA or Agency) and the United States Environmental Protection Agency (U.S. EPA) held a public comment period on the *Proposed Plan, South Ditch Unnatural Sediment, New Jersey Zinc/Mobil Chemical Superfund Project DePue, Illinois*, September 2002 (the Proposed Plan) and alternatives. The original comment period, as published in the LaSalle News Tribune and the Bureau County Republican, was September 9, 2002, through November 12, 2002. The potentially responsible parties<sup>1</sup> (PRPs) requested a 90-day extension of the comment period. In response, the Illinois EPA extended the public comment period to December 20, 2002. The Illinois EPA held a public hearing on October 9, 2002, at 6:30 p.m. to receive oral public comments and to present the Proposed Plan and alternatives. The hearing was held at the V.F.W. Hall in DePue.

The Illinois EPA designates Alternative 4B of the Proposed Plan as the final remedy. Alternative 4B is the removal of the unnatural sediments with on-site consolidation. The U.S. EPA concurs with this designation. The remedy involves temporarily diverting storm water from Marquette Street, and spring water from the north end of the ditch, around the work area and discharging the water directly to Lake DePue. After the storm and spring waters are diverted, the unnatural sediment remaining in the work area will be removed by a combination of mechanical

---

<sup>1</sup> Under the Comprehensive Environmental Response, Compensation and Liability Act (Superfund), PRPs are former and current owners and operators of the facility. In this case, the PRPs are Viacom International Inc., Mobil Oil Corporation and Horsehead Industries, Inc. Mobil has since merged with Exxon and is now called Exxon Mobil Corporation.

and hydraulic dredging. In hydraulic dredging, the sediment is removed as a slurry. The sediment will then be pumped or trucked to one or more lined settling ponds. After the sediments have settled, the water on top will be discharged back to the South Ditch to support further sediment removal. The discharged water will have to meet federal and state water quality and effluent<sup>2</sup> standards, unless a waiver of these standards<sup>3</sup> is justified during treatability studies, and federal and state laws allow the waiver. The Record of Decision (ROD) requires the PRPs to conduct treatability studies before beginning construction of the remedy. The purpose of the treatability studies is to verify that the discharged water will meet all federal and state standards during implementation of the designated remedy.

The sediment remaining in the settling ponds after the water is removed will be mixed with one or more additives such as kiln dust or fly ash for stabilization. The sediment will then be transported to an interim storage cell to be constructed adjacent to the primary zinc smelter slag pile.

This responsiveness summary documents Illinois EPA and U.S. EPA responses to comments received during the public comment period. The Illinois EPA and the U.S. EPA carefully considered these comments before selecting a remedy for the South Ditch unnatural sediment. The remedy is detailed in the Illinois EPA's ROD. The U.S. EPA concurs with the remedy.

## **COMMUNITY INVOLVEMENT BACKGROUND AND CONCERNS**

Since the 1960s, citizens of DePue have registered complaints with the state government about releases from facilities located on the New Jersey Zinc/Mobil Chemical property. Many of the complaints concerned air pollution and discharges from the gypsum pile and were not related to the South Ditch. Other complaints centered on the silting of Lake DePue caused by discharges from the plant property to the Lake via the South Ditch. These complaints were often tempered by concerns that pollution control requirements might force the closure of the plants, resulting in the loss of employment for residents and a reduction of DePue's tax base.

In 1983, the Illinois Department of Conservation (now the Illinois Department of Natural Resources or IDNR) dredged Lake DePue. The state representative for DePue at that time, the Honorable Richard Mautino, initiated a bill in the state legislature that provided funding for the dredging. Representative Mautino was responding to DePue residents' concerns that Lake

---

<sup>2</sup> Effluent is wastewater (both treated and untreated) that is discharged to surface water. In this case, the comment is referring to water that is decanted (gently removed so the settled sediments are not disturbed) and discharged to Lake DePue.

<sup>3</sup> Water quality standards are standards set for lakes, streams and rivers. Effluent standards are standards set for discharges into these bodies of water. Water quality standards are dependent upon the use of the body of water; for example, standards might differ for water being used as a source of a public water supply than for water used for recreation.



DePue was becoming too shallow for the annual National Speedboat Races, which the Village sponsors.

In 1992, the Illinois EPA conducted an expanded site inspection in preparation for scoring the site for the National Priorities List (NPL), sometimes called the Superfund list. As part of that inspection, Illinois EPA staff collected sediment samples from the South Ditch, the plant property, residential properties and Lake DePue. The analysis of the South Ditch sediment samples indicated the sediment was highly contaminated with heavy metals. The Illinois EPA held a public meeting at the DePue Public School to discuss the results of the 1992 sampling event. *change*

The Illinois EPA subsequently opened negotiations with the PRPs to perform various remedial actions and investigations of the site, including a focused remedial investigation/feasibility study<sup>4</sup> of the South Ditch. These negotiations resulted in an interim consent order between the State of Illinois and the PRPs. The Illinois EPA held a public comment period on the Interim Consent Order from September 29, 1995 to October 30, 1995. On October 17, 1995, the Illinois EPA held two public meetings in the V.F.W. Hall in DePue to discuss the proposed Interim Consent Order. The state received two comments, neither of which was specifically related to the South Ditch. One comment expressed concerns that the PRPs should pay for the remedy and that the timetable in the Interim Consent Order was for too lengthy. The other comment was from the U.S. Fish and Wildlife Service, and it expressed support for the Interim Consent Order. The Interim Consent Order was entered in the Circuit Court, for the Thirteenth Judicial Circuit, Bureau County, Illinois, on November 6, 1995.

The Board of Trustees of the Village of DePue wrote a letter, dated March 1, 1996, to Governor Jim Edgar, supporting the placement of the site on the NPL. On April 1, 1997, the U.S. EPA proposed the site for the NPL and the listing was finalized on June 6, 1999.

In July 1997, the citizens of DePue formed a Citizens Advisory Group (CAG). The Illinois EPA and the PRPs were ex-officio members of the CAG. The last meeting of the CAG was April 17, 2002. The status of the South Ditch remedial investigation and proposed plan was a frequent topic of discussion at CAG meetings. One concern expressed by CAG members was the slowness of progress of the work. Specifically, CAG members expressed concerns about the length of time that passed between the completion of the focused remedial investigation of the South Ditch sediment (conducted between 1995 and 1997) and the submission of the South Ditch Proposed Plan to the public for comment (from September 9 to December 20, 2002).

A second major concern of CAG members was that the closing of the facilities on the New Jersey Zinc/Mobil Chemical plant property has left the Village of DePue with a major decrease in its tax base. CAG members look both to the Lake and to the former plant property as resources that can be developed for recreational, industrial and commercial use, providing a new economic base for the Village. A part of this concern focuses on freeing as much plant property as possible for future development. This sentiment is frequently accompanied by a stated desire

---

<sup>4</sup> A feasibility study is a study of alternative remedies that follows a prescribed format. Although the Interim Consent Order called for a focused feasibility study for the South Ditch sediments, the Illinois EPA allowed the PRPs to shorten the format in order to speed up progress on the project. Therefore, the study of alternatives for the South Ditch sediments is not called a feasibility study.

that the slag pile and other waste to be removed from the site.

On August 16, 2000, the CAG, in conjunction with the Illinois EPA Bureau of Water, sponsored a Lake Festival. The purpose of the festival was to provide DePue citizens an opportunity to learn more about Lake DePue, including the relationship of the plant property to the Lake. Since the South Ditch connects the plant property to the Lake, the ditch was included in the festival discussions.

From September 9, 2002 through December 20, 2002, the Illinois EPA held a public comment period on the Proposed Plan and other alternative remedies for the South Ditch sediment. The Illinois EPA received written comments from three citizens, the Village Board of DePue, the Bureau County Board and the PRPs. On October 9, 2002, the Illinois EPA held a public hearing on the South Ditch sediment. Twenty-nine people attended including six Illinois EPA staff and two U.S. EPA staff.

See Attachment 1 for a listing of community relations activities at the site.

## **SITE CHARACTERISTICS**

The New Jersey Zinc/Mobil Chemical Superfund site is the location of a former primary zinc smelter in DePue. The smelter began operations in DePue in the early 1900s. At various times, other industrial activities that used byproducts of the zinc smelting process took place on the plant property. Surface water runoff and some groundwater from the plant property flowed into a ditch that discharged into Lake DePue. This ditch is now known as the South Ditch. Analytical results of sediment samples collected from the South Ditch by the Illinois EPA in 1992 showed elevated levels of metals. The Illinois EPA has determined the sediment to be unnatural in their origin.

The Interim Consent Order between the State of Illinois and the PRPs required the PRPs to reduce or prevent discharges from the plant property that were resulting in the deposition of metals-contaminated material in the South Ditch. The PRPs accomplished this task by constructing, and later modifying, an interim system to collect and treat contaminated groundwater and surface water flowing into the ditch.

The Interim Consent Order also required the PRPs to conduct a focused and expedited remedial investigation of the South Ditch unnatural sediment. Following the remedial investigation, the PRPs were obligated to perform an analysis of various actions that they could take to reduce any risk presented by the unnatural sediment.

The PRPs, with Illinois EPA oversight, conducted the focused remedial investigation between 1995 and 1997. The investigation results indicated that approximately 7,900 cubic yards of unnatural sediment exist within the study area, with depths varying between 2.6 to 6.8 feet and widths between 12 feet to greater than 45 feet. The PRPs developed documents of possible remedies for the ditch. The Illinois EPA, with U.S. EPA concurrence, proposed one of the alternatives as a remedy for the South Ditch sediment. The proposed remedy was Alternative 4B, which is the removal of the sediment and on-site consolidation.

## KEY ISSUES

1. The Village of DePue's Board of Trustees and the Bureau County Board have both passed resolutions in support of Alternative 4C (removal of the unnatural sediment with off-site disposal). Two citizens also submitted a written comment supporting Alternative 4C.
2. One citizen preferred burying the South Ditch sediment on site with lake sediment.
3. There is a concern that ground and surface water originating on the former plant property may recontaminate the South Ditch.
4. There is a concern that remedial activities may spread the contamination.
5. There is criticism of the length of time that elapsed between the completion of the focused remedial investigation of the ditch and the finalization of the Proposed Plan.
6. The IDNR supports the Proposed Plan.
7. The PRPs commented that Superfund law allows waivers of the effluent standards for interim actions and that the ROD should include language that would authorize these waivers if the treatability studies demonstrate that the action required by the ROD cannot meet these standards.
8. The PRPs commented that the effluent standards stated in the Proposed Plan are neither cost effective nor technically feasible.
9. The PRPs commented that the Proposed Plan, because of its lack of detail, violated both Illinois regulations and U.S.EPA guidance.
10. The PRPs commented that the Illinois EPA is in violation of the Interim Consent Order, because the Agency did not follow the remedial investigation /feasibility process.
11. The PRPs commented that the Proposed Plan constitutes a "presumptive remedy" and that the Illinois EPA does not have the authority, under the Interim Consent Order, to impose a remedy.
12. The PRPs commented that the Proposed Plan is in violation of Illinois regulations, because it is arbitrary and capricious.

## SUMMARY OF PUBLIC COMMENTS AND ILLINOIS EPA RESPONSES

### STAKEHOLDER ISSUES

#### Preference for Alternative 4C (Removal and Off-site Disposal of Sediment)

1. **Comment:** The Board of Trustees for the Village of DePue, the County Board and two citizens submitted separate comments favoring Alternative 4C over Alternative 4B. Alternative 4C is dredging the sediment from the South Ditch and transporting it to an off-site disposal facility permitted for that type of material. The citizens prefer this alternative, because they do not want the sediment buried on site where it may cause future problems, since DePue already has "more problems than it can afford." The county and village resolutions did not state the reasons for their preference for Alternative 4C.

**Response:** The Illinois EPA shares the citizens' concern about not creating future problems. The PRPs with Illinois EPA oversight will take the following measures to ensure that the sediment in the interim storage cell will not cause an environmental problem until a final remedy is selected for the sediments and other on-site waste. The safety measures include:

- (1) The interim storage cell will be lined with material such as compacted clay and high-density polyethylene (HDPE). These materials are designed to be barriers between the sediment and the groundwater below.
- (2) Before the sediment is placed in the cell, it will be stabilized with a material like fly ash or kiln dust. These materials will physically stabilize the sediment by further drying it out and increasing the sediments weight bearing capacity so a cap can be built over it. Fly ash or kiln dust will also assist in chemically stabilizing the metals. Metals are more likely to leach out of the sediment into groundwater below if the sediment is acidic (a low pH). Adding materials such as fly ash or kiln dust will increase the pH of the sediment providing chemical stabilization of the metals in the sediment.
- (3) An aggregate drainage layer, such as gravel, will be placed on top of the liner before the sediment is placed in the containment unit. Water draining through the sediment will be collected from this drainage layer and sent to the water treatment plant for processing.
- (4) After sediment is placed in the interim storage cell, the cell will be covered with HPDE and a layer of clay graded to drain water away from the cell. The unit will then be vegetated. These coverings will prevent rain from entering the cell and washing the metals from the sediment into the groundwater. The coverings will also prevent wind or rain from moving the contamination out of the storage cell into surrounding areas.

- (5) The groundwater near the cell will be monitored to verify that the cell's integrity is intact and that contaminants are not leaching from the cell into the groundwater.

The Agency considered several factors in choosing Alternative 4B over 4C.

(1) The South Ditch remedy is only an interim remedy, so the final fate of the South Ditch sediments will be made when a decision is made about all the on-site contamination. The South Ditch sediment is only about 0.4 percent of the total on-site contaminated materials,<sup>5</sup> so its relatively small amount will have little or no influence on the final decision about the site remedy.

(2) The interim storage cell will be constructed in a similar fashion to an off-site landfill so will provide equal protection of the environment as an off-site landfill. As far as safety is concerned, hauling the sediment to an off-site landfill does not provide greater long-term protection of the environment but only moves the sediment from DePue to another location.

(3) The nearest landfill suitable for the South Ditch sediments is about 60 miles from DePue. Hauling the sediment 60 miles, compared to one mile from the ditch to an on-site interim storage cell, is an increased safety hazard because of the increased risk of accident and accidental release of contaminants to the environment.

(4) The Interim Consent Decree requires that all investigations and remedies complement one another if possible. This means that if the on-site remedy for the zinc slag includes reclamation of metals or if it is on-site closure, then the remedy for the South Ditch unnatural sediments should complement that remedy if possible.

(5) By maintaining the South Ditch sediments in an on-site storage unit, the unnatural sediments remain a candidate for technologies such as metals recovery. This alternative and other resource-recovery alternatives may prove viable during the remedy selection process for other units such as the primary zinc slag pile.

### Interim Storage Unit

2. **Comment:** What is the estimated tonnage of contaminated sediment remaining after it has been dewatered?

**Response:** The Illinois EPA estimates that the stabilized, dewatered sediment will weigh approximately 11,850 tons. A more accurate estimate will be possible after the PRPs complete the treatability studies. The remedial investigation identified 7,900 cubic yards of unnatural sediment in the South Ditch work area. The draft feasibility study indicates that any volume reduction by dewatering will probably be offset by the addition of stabilization

---

<sup>5</sup> The volume of South Ditch sediments is estimated to be 7,900 cubic yards compared to an estimated 763,000 cubic yards of slag in the slag pile. Also, the lithopone ridges on site contain an estimated 71,000 cubic yards of material and other on-site waste and slag is estimated at about 1,020,000 cubic yards.

agents such as kiln dust or fly ash. The estimate of 11,850 tons of stabilized and dewatered sediment is based on the assumption that there is no net volume change and that the stabilized sediment will have a density of approximately 3,000 lbs per cubic yard, which is a generally accepted average density for moderately heavy, moist soil.

3. **Comment:** The storage unit to be constructed on site is called an "interim storage unit." Does this mean that the dredged sediment could be moved off site someday?

**Response:** Yes, removal of the sediment off site is a possibility but several factors weigh against removal. If all of the estimated 1,855,000 cubic yards (see footnote #5) of on-site waste were to be removed, it would take 50 semi-tractor trailers a day, 261 workdays a year, about eight and one-half years to haul all the waste to another location. This volume of truck traffic poses a safety risk to children and other citizens in DePue, as well as a risk to others along the truck route. Final decisions about the South Ditch sediments, however, will be made after the on-site remedial investigations and the feasibility studies of remedies are completed, and a proposed plan is submitted to the public for comment.

A second factor that weighs against removal is that the Interim Consent Order acknowledges and allows in-place closure of the slag pile and lithopone ridges so long as it is technically appropriate to do so. In-place closure means that the slag pile and or lithopone ridges would not be moved off site but would be contained in their current locations. This would likely involve re-contouring the surfaces with a cap over the waste and one of many potential subsurface containment systems. These actions would be taken to insure that contaminants from the pile would not be released to the environment, including the groundwater.

4. **Comment:** What are the plans for the property after the final remedy is in place?

**Response:** The plans for the property are unknown. The U.S. EPA has granted an in-kind services grant to the DePue community as part of the Superfund Redevelopment Initiative. This grant provides the services of a contractor to help citizens produce an economic redevelopment plan for Superfund sites in their communities. The planning process will involve the PRPs, since they own the plant property and some of the surrounding property.

The Illinois EPA is aware that the village and county want to free as much land as possible for development. Community acceptance is one of the nine criteria<sup>6</sup> against which a remedy must be evaluated, and the Illinois EPA will consider this concern when selecting a final site remedy. The final remedy will also be evaluated using the other eight criteria. As in all past discussions of future land use, the Illinois EPA commits to selecting remedies for the site that

---

<sup>6</sup> The National Contingency Plan (Superfund regulations) specifies the following nine criteria for evaluation of remedies. They are (1) overall protection of human health and the environment, (2) compliance with applicable or relevant and appropriate requirements (state and federal laws, regulations and requirements), (3) long-term effectiveness and permanence, (4) reduction of toxicity, mobility or volume of contaminants through treatment, (5) short-term effectiveness, (6) implementability, (7) cost, (8) support agency acceptance and (9) community acceptance. Criteria 1 and 2 are called threshold criteria, because all remedies must meet these two criteria. Criteria 3 through 7 are called balancing criteria, because they are weighed against one another. Criteria 8 and 9 are considered modifying criteria.

remediate land to standards protective of human health and the environment and, where possible, minimize consumption of land, maximize future land use options and are consistent with local zoning and land use plans.

### **Possibility of Water from the Slag Pile Recontaminating the South Ditch**

5. **Comment:** How many cubic yards of slag material are in the slag pile?

**Response:** The draft phase I soil and groundwater remedial investigation report estimates the volume of the primary zinc slag pile at approximately 763,000 cubic yards. This estimate may change in the final report.

6. **Comment:** Is the slag pile sitting on a peat bog?

**Response:** Yes. The draft phase I remedial investigation report describes a continuous layer of peat under the primary zinc smelter slag pile, with a thickness between 2 and 10 feet. When the PRPs submit a version of the report that the Agency approves, the Agency will place the report in the project repository at the Selby Township Library, and Agency staff will prepare and distribute a fact sheet summarizing the report.

7. **Comment:** Is the slag pile settling through the peat bog?

**Response:** No. While the primary zinc smelter slag pile is sitting on a layer of peat, there is no information to indicate that it is "settling through" the peat. A more accurate interpretation would be that the weight of the slag pile is compressing the peat, causing the peat to become thinner, denser and containing less water. There is no information to indicate that the slag is passing through the peat.

8. **Comment:** Is it correct to say that the water running off and through the slag pile is leaching heavy metals out of the pile and that these metals are being deposited in the South Ditch?

**Response:** In the past, this was the case. However, the interim water treatment system collects most of the water running off or through the pile and treats the water to remove the metals before that water is discharged into the Illinois River. In the opinion of the Illinois EPA, some unknown limited quantity of contaminated groundwater may be escaping the existing collection system. Defining and quantifying that flow is one of the subjects of the on-going site investigations.

9. **Comment:** Are you satisfied that the collection system for the water treatment plant is collecting all of the polluted water coming off the slag pile?

**Response:** No. The Agency is satisfied that the water treatment system is collecting all of the water coming off the slag pile that is reasonably collectable at this time. The Illinois EPA has always been aware, however, that there may be other flows of contaminated groundwater and that the collection system may need to be enhanced to collect these flows after the completion of the on-site remedial investigation.

10. **Comment:** Years ago, the Illinois EPA required the facility to remove the top of the slag pile, cover it with dirt and plant grass. This action was supposed to solve the runoff problems from the slag pile. Should the sides have been covered also? Is it true, that even after that action, heavy metals continued to be washed off the slag pile into the South Ditch?

**Response:** The primary purpose of the 1981 Consent Order was to reduce the amount of precipitation flowing through the slag pile and, in the process, washing contaminants from the pile into the groundwater beneath the pile. To accomplish this purpose, the action focused on the rain and precipitation falling on top of the pile, not on the sides, so the sides were not required to be covered. Rather, the action required that precipitation falling on top of the pile be directed to storm water pipes to convey the water to the bottom of the pile where it would flow into a drain under Marquette Street. The action was not as effective as had been envisioned. Today, most of the contaminated groundwater beneath the pile is being collected by the water treatment system and treated before being discharged to the Illinois River, so it will not recontaminate the South Ditch.

11. **Comment:** Illinois EPA literature states that during heavy rains, untreated water occasionally bypasses the treatment plant. If this is so, during these bypass events, some of the water passing through the slag pile will again enter the ditch untreated and deposit heavy metals in the ditch.

**Response:** Although untreated water from the slag pile theoretically could enter the ditch during a bypass event, the water treatment plant lift station is designed to allow the water from the less contaminated North Ditch to bypass first. In almost six years of operation, there is no indication that water from the slag pile area bypassed the treatment system. There have been a number of bypass events, but these have always been of water from the North Ditch, which contains significantly lower metals concentrations.

12. **Comment:** After the work on the South Ditch is complete, will the Agency continue to monitor the ditch for contaminants?

**Response:** Yes, there will be monitoring in the sense that there will be a more complete investigation of the entire southeast area in the future. The current action is an interim action intended to manage highly contaminated sediments that represent a human health and ecological threat. This interim action will be confined to the flow channel of the South Ditch, as it existed in 1996. Since the South Ditch unnatural sediments differ in appearance from surrounding natural sediment, the unnatural sediments can be removed (based on color and texture) without detailed chemical analysis. Later, the PRPs will conduct a more thorough investigation of the area, analyzing samples for chemical content and concentrations. This more intensive investigation will include areas on both sides of the existing ditch, as well as Lake DePue. After this more thorough investigation is complete and the PRPs make a study of possible remedies, the Illinois EPA will submit a proposed remedy for the entire area to the public for comment.



### **Slowness of the Process**

13. **Comment:** This project has taken too long, especially the length of time between the completion of the focused remedial investigation of the South Ditch and the submission of a South Ditch proposed plan to the public.

**Response:** The Illinois EPA is equally frustrated. The PRPs and the Illinois EPA have over the five year period of time proposed and considered several actions to remediate the South Ditch. Until last summer, all of the options evaluated were either not practical, did not comply with state or federal law or were otherwise not implementable. The remedy as selected in this ROD will comply with statutes, is implementable and complies with the Interim Consent Order and only recently have those determinations been agreed to by all regulators involved in proposing the selected remedy.

14. **Comment:** The South Ditch project needs to be completed as scheduled.

**Response:** It is the Illinois EPA's intention that the South Ditch interim action be completed in as timely a fashion as possible, which according to the present schedule is in the fall of 2004. This completion date is based upon the following two assumptions: 1) that no unanticipated construction delays are encountered and 2) that the weather and water levels in DePue Lake remain within reasonably expected seasonal norms.

### **Support of Proposed Plan**

15. **Comment:** The IDNR supports the Proposed Plan. IDNR staff are pleased that one of the sources of ongoing contamination of Lake DePue is on the roster for cleanup. IDNR staff stated that the Department will do anything within their authorities to facilitate the cleanup of the South Ditch.

**Response:** The Illinois EPA thanks IDNR for their support.

### **Other Concerns**

16. **Comment:** The road leading up to the South Ditch area is unimproved and can be dusty. Residents who live close to this road are concerned that the truck traffic on the road during the removal of South Ditch sediments will stir up dust and blow on to neighboring properties.

**Response:** The Illinois EPA will take vigorous measures to ensure that dust from the road will not blow onto neighboring properties during the removal of the South Ditch sediments. All work associated with implementing the interim action defined in this ROD, as well as all ongoing and future work, is subject to Illinois EPA approved dust control plans that require no visible emissions beyond the immediate work area. The dust control plan will be rigorously enforced.

17. **Comment:** Can the whole area be buried with sediment from Lake DePue?

**Response:** The Agency's position is that capping (burying) the South Ditch sediments and

leaving the sediments in place forever is not appropriate, because it does not comply with state and federal laws and regulations for several reasons including the following:

(1) Any containment remedy of South Ditch sediments in-place would require treatment of the sediments with fixative agents to insure that the metals contained in the sediments do not become mobile; this becomes even more critical, because simply covering the sediments would not put a reduced or impermeable layer under and around the sediments. Because there is already groundwater contamination under and around the South Ditch there is no mechanism to detect leakage from this containment unit. Thus, there is no way to monitor the effectiveness of the remedy. A number of environmental statutes and guidance require that all Superfund remedies that leave waste in place must be able to be monitored.

(2) The capping alternative does not meet the criterion of permanence required for Superfund remedies. The cap (made of the lake sediment) would eventually fail, because water and wave action would cause the cap to erode. Additionally, Illinois law prohibits the siting of new waste disposal facilities within the flood plain for similar reasons.

(3) The sediment from the lake would not be a suitable cap for the South Ditch sediments. Federal and state standards require capping material for waste disposal units to be highly impermeable. It is doubtful that the lake sediments could be sufficiently compacted to meet these standards. A faulty cap could allow precipitation to enter the cap, seep into the ditch sediments then wash contaminants in the ditch sediments into the groundwater below.

18. **Comment:** After the sediment is removed, try to leave the area as either open water or dry land so that a breeding ground for mosquitoes is not created. We do not need more wetlands in this area.

**Response:** Since this is an interim action, no final plans have been made for the South Ditch. The long-term plan for the South Ditch will be determined after the PRPs complete a thorough investigation of the entire southeast area (including the delta surrounding the lower reaches of the South Ditch). Upon the completion of this investigation, the PRPs will conduct a feasibility study (study of alternative remedies). The Agency will choose one alternative as a proposed plan and submit the proposed plan and feasibility study to the public for comment

In the short-term, this comment will be considered during the development of the work plan to implement this ROD. In all likelihood, the short-term plan for the South Ditch will be for the ditch to remain as a channel to Lake DePue for storm water from Marquette Street and the railroad tracks.

19. **Comment:** In order to lessen the possibility of spreading the contamination, a citizen commented that he would prefer that the sediment be pumped in liquid form to the plant site and processed there within the "watershed" of the existing water treatment and collection system.

**Response:** The Illinois EPA and the PRPs considered liquid transfer of the sediments from the ditch to the plant site. The ROD does not prevent this method of transfer. The largest single obstacle to liquid transfer is access to and use of the railroad right-of-way for the pumping line. If, during project design, it appears that pump transfer is cost effective, it may be worthwhile to pursue railroad access. Thus far, however, the railroad has not been particularly open to granting access for this project.

3. If liquid transfer of the sediments is not used, the Illinois EPA will oversee the PRP work to make sure that all necessary precautions are taken to lessen the likelihood of spreading the contamination. As an example, the settling ponds will be lined with a minimum thickness of 40-mil<sup>7</sup> high-density polyethylene (10 times the thickness of a heavy duty four mil garbage bag). The various work plans, which will define the actual work, will contain spill control and countermeasure provisions, which the Illinois EPA will rigorously enforce during remedy implementation.

## EXPANDED TECHNICAL AND LEGAL ISSUES

### Effluent and/or Water Quality Standards

The PRPs submitted the following comments and questions to the Illinois EPA during the public comment period.

20. **Comment:** At what point will the water quality standards and effluent standards be applied in this proposed plan?

**Response:** The point of compliance will be at the end of the pipe of the last unit of treatment. As the Illinois EPA currently envisions treatment, the point of compliance will be as the water leaves the last settling pond, immediately before it is returned to the South Ditch.

21. **Comment:** Will the standards applied at the "end of the pipe" be effluent standards only?

**Response:** Yes. 35 Ill. Adm. Code Subtitle C is the applicable or relevant and appropriate requirement (ARAR)<sup>8</sup> for this discharge.

22. **Comment:** During dredging, will the PRPs be allowed to divert ammonia-containing spring waters without treatment? If so, what is the rationale for this allowance?

**Response:** Yes. Diversion of the spring flows around the work area is necessary to complete

---

<sup>7</sup> One mil is equal to 1/1000 of an inch.

<sup>8</sup> ARAR stands for "applicable or relevant and appropriate requirement". It is one of two criteria (out of nine) that a Superfund remedy must meet unless the remedy qualifies for a waiver. The U.S. EPA website summarizes the requirement as "Any state or federal statute that pertains to protection of human life and the environment in addressing specific conditions or use of a particular cleanup technology at a Superfund site." A more complete definition is listed in the Glossary in the Appendices of this document.

the dredging work. Redirection of existing springs (which are ammonia contaminated) is not a "new" discharge but rather a short-term redirection of an existing discharge. As a natural flow, which happens to be contaminated, the redirection of springs is not subject to regulation.

## Waivers of Effluent and Water Quality Standards

23. **Comment:** Federal Superfund law allows waivers of certain effluent and water quality standards during interim remedies such as dredging the South Ditch.

**Response:** The Illinois EPA agrees that federal Superfund law allows waivers of certain effluent and water quality standards during interim action remedies such as the one to be conducted under this ROD. However, U.S. EPA's interpretation of the law is that those waivers are only available to federal lead sites or fund financed state lead sites. The New Jersey Zinc/Mobil Chemical project is a state lead site but is being funded by the PRPs, not the federal Superfund. Therefore, according to U.S. EPA, the waivers allowed under the Superfund law are not allowed at this site.

24. **Comment:** The PRPs submitted a paper to the Illinois EPA, presenting the position that this action is not subject to a permit issued by the U. S. Army Corps of Engineers (Corps)<sup>9</sup> under section 404 of the Clean Water Act. This section sets conditions for the disposal of dredged material. What is the Illinois EPA's response to this position and what is the basis of the Illinois EPA's response?

**Response:** The Illinois EPA discussed the PRPs' position with Corps representatives. The Illinois EPA was advised that the Corps did not agree with the PRPs' position that the proposed South Ditch interim action would qualify as an "incidental fallback"<sup>10</sup> situation. Therefore, the Corps' position is that Nationwide Permit #38<sup>11</sup> is appropriate for this action, and which this ROD identifies as an ARAR for this interim action. The Illinois EPA verbally relayed the Corps' position to the PRPs. The PRPs are required, under any dredging scenario, to notify the Corps of their intended action--including an action under Nationwide Permit #38. In that notification, the PRPs can present arguments to the Corps that the "incidental fallback" rule applies. The Illinois EPA will defer to the Corps' decision on this issue.

---

<sup>9</sup> Since 1899, Congress has given the Army Corps of Engineers (Corps) permitting authority over navigable waterways. At first, the program was meant to prevent obstructions to navigation. With the passage of the Clean Water Act in 1972, the Corps' role was broadened by giving them authority over dredging and filling in the "waters of the United States," including many wetlands.

<sup>10</sup> "Incidental fallback" is the redeposit of small volumes of dredged material that is incidental to excavation activity when the material falls back to substantially the same place as the initial removal. Under U.S. regulations "incidental fallback" is not considered discharge of dredged material, making it exempt from permitting requirements for discharges of dredged material into the waters of the United States.

<sup>11</sup> Nationwide permits are a type of general permit issued by the Corps Chief of Engineers and are designed to regulate with little, if any, delay or paperwork certain activities having minimal impacts. Nationwide Permit #38 addresses dredging during the cleanup of hazardous and toxic waste. The Illinois EPA has placed this permit in the Selby Township Library with other project repository documents.

25. **Comment:** The project is neither cost effective nor technically feasible without the waivers.

**Response:** Please see the response to comment 23 above. The Illinois EPA's position is that it is highly important to keep additional contaminated sediment from entering the lake and that every reasonable effort must be made to meet water quality standards. Releases of contaminants caused by dredging must be avoided to the greatest extent practicable.

If the PRPs demonstrate through the treatability studies that it is technically impracticable to meet standards, the Illinois EPA may reconsider its position. While cost effectiveness and implementability are two of the nine criteria used to judge remedies, they are not threshold (go or no go) criteria. Cost effectiveness and implementability are considered balancing criteria and are weighed against other balancing criteria such as long-term and short-term effectiveness.

26. **Comment:** Will ARAR waivers be part of the ROD? Viacom recommends that the ROD include the following language: "in the event that treatability studies demonstrate that the proposed remedial alternative cannot meet effluent or water quality standards for selected constituents, this Record of Decision authorizes waivers of water quality and effluent standards for those constituents for the duration of the dredging project."

**Response:** The Illinois EPA has always intended to include a statement in the ROD similar to Viacom's proposed statement. However, that language will be qualified by a statement indicating that waivers may be granted by the Illinois EPA within its abilities to issue those waivers. The Illinois EPA currently does not have the authority to issue waivers under Section 121 of CERCLA.<sup>12</sup> However, the Illinois EPA is attempting to gain access to the authorities of Section 121. The Agency is also seeking other ways of obtaining authority to issue interim action and technical impracticability waivers.<sup>13</sup> If the treatability studies demonstrate that the PRPs cannot comply with the water quality and effluent standards, the Illinois EPA may issue the appropriate waiver(s), if the Agency is successful in gaining access to the authorities that will allow it to do so. This ROD also contains contingency language to reopen this issue if the treatability studies demonstrate that the selected interim remedy cannot be implemented without the waiver of one or more ARARs and the Illinois EPA does not have the authority to issue those waivers. If the Illinois EPA reopens the ROD and if the changes do not fundamentally alter the remedy in scope, performance or cost, the Agency will issue an explanation of significant differences. If the changes fundamentally alter the remedy, the Agency will publish a notice of the availability of the changes and provide a time for public comment.

27. **Comment:** Viacom requests the U.S. EPA guidance that prohibits ARAR waivers from being used at state-lead sites be placed in the hearing record.

---

<sup>12</sup> Section 121 of CERCLA includes a description of the role of states in Superfund action.

<sup>13</sup> CERCLA defines six circumstances where ARARs may be waived. One of them is during an interim action discussed in comment #23. A second circumstance is if the ARAR is technically impracticable from an engineering perspective. (Section 121(d)(4)(C) of CERCLA (42 U.S.C. §9621(d)(4) (2003))

**Response:** U.S. EPA policy documents on ARAR waivers are Attachment 2 of this document and are included in the hearing record. For more information on these policies, please contact U.S. EPA.

28. **Comment:** The proposed plan fact sheet states that if treatability studies demonstrate that the PRPs cannot meet standards under the Proposed Plan, then the Agency will reconsider its position. What options are available to the Illinois EPA and the U.S. EPA in this reconsideration that will allow the project to proceed in a timely manner?

**Response:** There are several options available to the Illinois EPA, U.S. EPA and the PRPs including:

- (1) to require the PRPs to change their treatment technology so the discharge water meets water quality and effluent standards. The viability of technologies beyond simple settling ponds must be investigated during the treatability studies to determine if other reasonable, more aggressive treatment technologies can achieve compliance. The potential implementation of more aggressive technologies must be evaluated against the technical impracticability standards. There is no doubt that a fully compliant discharge can be achieved within the limits of available technologies. However, the cost of the equipment for these technologies and the time required to bring the equipment up to full operational status could be unreasonable for a project of this limited scope. In such an event, the technology could be considered technically impracticable. Another example of technical impracticability would be if use of the technology represented a greater potential threat to human health or the environment than the non-compliant discharge;
  - (2) the PRPs obtain adjusted standards from the Illinois Pollution Control Board; or
  - (3) the PRPs apply to the Illinois EPA for a discharge permit that grants a "Facility Intake Credit" if they believe the conditions set forth in 35 Ill. Adm. Code 304.103 are met.
29. **Comment:** U.S. EPA Superfund guidance does not require a full-blown evaluation of all nine criteria including ARAR compliance, for purpose of an interim action record of decision. See U.S. EPA, *Guide to Preparing Superfund Proposed Plans, Records of Decision and Other Remedy Selection Decision Documents* OSWER 9200.1-23P.

**Response:** The Illinois EPA agrees that the PRPs are correct in that the referenced guidance does not require full evaluation of the nine criteria during selection of interim action remedies, however, that same guidance states:

"When an interim action is taken early in the process to mitigate immediate threats, it is likely that no formal RI/FS Report will be available yet. Although preparation of an RI/FS Report is not required for an interim action, there must be documentation that supports the rationale for the action to fulfill the National Contingency Plan's administrative record requirements. The ROD serves this purpose. A summary of site data collected during field investigations

should be sufficient to document a problem in need of response. In addition, a short analysis of remedial alternatives considered, those rejected, and the basis for the evaluation (as done in a focused FS) should be summarized to support the selected action.” U.S. EPA, *Guide to Preparing Superfund Proposed Plans, Records of Decision and Other Remedy Selection Decision Documents* OSWER 9200.1-23P page 8-2.

Since an incomplete focused FS exists for the South Ditch, which uses the nine criteria to generally evaluate all reasonable remedial options, that focused FS cannot be ignored for the convenience of the PRPs. The PRPs submitted a proposal to dredge the South Ditch to the Illinois EPA rather than finalize the focused FS. This dredging proposal is generally acceptable to the Illinois EPA exclusive of its ignoring ARAR compliance relating to water management. The remedy selected in this ROD is the remedy proposed by the PRPs with the addition of technically appropriate treatability studies to determine appropriate operation and management of the PRP proposed silt fences and management of the decant ponds (settling ponds) to maximize water quality in the effluent. These treatability studies will also validate or invalidate the PRPs' presumed need for ARAR waiver.

30. **Comment:** By evaluating the alternative remedies in the Proposed Plan against the ARAR compliance criterion, Illinois EPA has in effect created a bias against ARAR waivers, even though U.S. EPA specifically recognizes that ARAR waivers are readily available for interim actions. See U.S. EPA's, *ARARs Q's & A's: General Policy, RCRA, CWA, SDWA, Post-ROD Information, and Contingent Waivers* OSWER 9234.2-01FS-A.

**Response:** ARARs cannot be ignored simply for the convenience of avoiding compliance with a state or federal law. The Interim Action Waiver is intended for use in a situation where the ARAR actually encumbers the work progress, but the final work product will comply with ARARs and no adverse effect will occur as a result of invoking the waiver. The Technical Impracticability waiver is intended to allow a remedial effort to go forward when the only available or the most appropriate technique cannot comply with one or more ARAR and to comply with that ARAR either creates a situation more hazardous to human health and/or the environment than non-compliance, or when compliance grossly exceeds the standards of cost effectiveness. There is a substantial body of guidance on the appropriateness of ARAR waivers. The PRP referenced OSWER document above is one of those guidance documents and apparently has not been fully considered by the author of the comment.

31. **Comment:** Since the Illinois EPA professes to be taking this action under the Interim Consent Order and the order is a state document, the alternative remedies in the Proposed Plan should have been evaluated under the Illinois Contingency Plan,<sup>14</sup> which is an Illinois Regulation (35 Ill. Adm. Code 750.460). This regulation does not include ARAR compliance. Had Illinois EPA utilized Illinois Contingency Plan evaluation criteria and the

---

<sup>14</sup> The Illinois Contingency Plan is the short name for Illinois regulations called the Illinois Hazardous Substances Pollution Contingency Plan (35 Ill. Adm. Code Part 750). These regulations implement the "Illinois Superfund Program".

National Contingency Plan<sup>15</sup> criteria for interim remedies. instead of National Contingency Plan criteria for final remedies, ARAR compliance would not have been an issue.

**Response:** The Interim Consent Order specifically requires that all work at the site be consistent with not only the Illinois Contingency Plan but also the National Contingency Plan. In fact, during negotiation of the Interim Consent Order, the PRPs were equally insistent with the Illinois EPA that the Interim Consent Order require National Contingency Plan consistency. The discussion found in response to comment numbers 29 and 30 above address the remainder of this comment.

### **Proposed Plan: Content and Process**

32. **Comment:** The Illinois EPA and U.S. EPA made no mention in the Proposed Plan of the PRPs detailed proposal for a dredging remedy. One proposal was submitted in May 1998 and the other in February 2001. What is the reason for this omission?

**Response:** The commenter (the PRPs) is correct that neither of the two documents were discussed in the final proposed plan. Discussion and note of the May 21, 1998 *South Ditch, Proposed South Ditch Remedial Activities* document prepared by ENTACT and presented to the Illinois EPA by the PRPs was included in earlier drafts of the Proposed Plan and removed for brevity during editing. It is included in the administrative record for the action. The February 22, 2001 *Scoping Document for the South Ditch Presumptive Remedy*, was rejected by the Illinois EPA for numerous reasons, including its technical inadequacy and the administrative requirements imposed by U.S. EPA Region 5. The administrative obligations of U.S. EPA Region 5 ended the development cycle of the February 2001 document and, while included in the administrative record, its actual usability is minimal.

33. **Comment:** The conceptual remedy outlined in Alternative 4B is patently inadequate under both U.S. EPA ROD guidance and the Illinois Contingency Plan. The Proposed Plan is a conceptual dredge remedy with virtually no detail on the features of the project. The description fails to describe how this complex dredging project is to be implemented and how specific water quality and effluent standards will be achieved.

**Response:** The Proposed Plan meets the abbreviated requirements of the guidance cited by this commenter earlier (U.S. EPA, *Guide to Preparing Superfund Proposed Plans, Records of Decision and Other Remedy Selection Decision Documents* (ROD guidance) OSWER 9200.1-23P) particularly since this is an interim action. A proposed plan is not to provide detail sufficient to construct a project but rather to summarize the known information on a threat to human health and the environment and present a conceptual remedy for that threat. The specific construction details will be developed by the PRPs during the remedial design process and approved by the Illinois EPA prior to implementation. Until the PRPs conduct the treatability studies discussed in the Proposed Plan and required by the ROD, the mechanisms of achieving water quality and effluent standards remain undetermined. The

---

<sup>15</sup> The National Contingency Plan is the short name for the National Oil and Hazardous Substances Contingency Plan, which is the federal regulation implementing the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).



Illinois EPA does not profess to know or guarantee that water quality and effluent standards can be met while implementing the selected remedy. However, the Illinois EPA is unwilling and unable to support ignoring those standards until the PRPs validate that those standards are a fatal flaw in the implementation of the project, not just an inconvenience to the PRPs.

34. **Comment:** The Illinois EPA's proposed remedy is devoid of any details on the elements of cost and consequently does not meet the federal and state requirements.

**Response:** The cost information presented in the Proposed Plan is a summary of the draft feasibility study cost prepared and submitted to the Illinois EPA by the PRPs' contractor. Cost estimates are the obligation of the PRPs and were not provided in the May 1998 and February 2001 documents submitted by the PRPs to the Illinois EPA. The cost information contained in the FS and summarized in the Proposed Plan is sufficient to select Alternative 4B for this interim action.

35. **Comment:** The Illinois EPA represents the Proposed Plan as having been developed from the Interim Consent Order remedial investigation/ feasibility study (RI/FS) process and the PRPs' original proposal. Illinois EPA is well aware that the Interim Consent Order mandated RI/FS process for the South Ditch has never been completed. The focused feasibility process was suspended in late 1997.

**Response:** The RI/FS process was at an impasse in late 1997 as a result of the PRPs recalcitrance at resolving issues related to ARAR compliance and the Illinois EPA's refusal to accept an inappropriate ranking hierarchy of remedial options. In May of 1998, the PRPs presented an unsolicited proposal to dredge the South Ditch (*South Ditch, Proposed South Ditch Remedial Activities* May 1998). In February of 2001, the PRPs initiated the presumptive remedy process of the Interim Consent Order. This was done with the support of the Illinois EPA and the Office of the Illinois Attorney General. This presumptive remedy process was strongly discouraged by U.S. EPA Region 5 who encouraged the Illinois EPA to develop an interim action proposed plan based on the available draft FS and the PRPs' May 1998 document.

Selection of interim actions before completion of the RI/FS process is clearly allowed in the ROD guidance referenced by the PRPs in their comment # 29 and is not precluded by the Interim Consent Order, the Illinois Contingency Plan or the National Contingency Plan. Additionally, the Proposed Plan and all communication between the Illinois EPA and the PRPs clearly indicate that the current action is an interim action based on the PRPs' May 1998 proposal, with the Illinois EPA's addition of ARAR compliance. A final remedy for the South Ditch will be selected upon completion of the Southeast Area component of the Site Wide RI/FS process. See U.S. EPA, *Guide to Preparing Superfund Proposed Plans, Records of Decision and Other Remedy Selection Decision Documents* OSWER 9200.1-23P section 8.2.1.

36. **Comment:** The Illinois EPA has no right under the Interim Consent Order to impose its own presumptive remedy. That right is reserved specifically for the defendants.

**Response:** The Proposed Plan does not offer a "presumptive remedy" to be imposed by the

Illinois EPA. The Proposed Plan presents Alternative 4B from the draft 1997 FS as modified by, and directly following, the May 1998 PRP proposal. The only variation between the May 1998 PRP proposal and the Proposed Plan is the requirement that the PRPs comply with ARARs and complete treatability studies to validate the need for ARAR waivers and to provide sufficient documentation to support administrative relief from those ARARs.

37. **Comment:** The regulatory process needs to be streamlined. For example, two years passed while Illinois EPA had numerous internal meetings, attempting to find an administrative mechanism to grant waivers of water quality and effluent standards during the dredging of the South Ditch. When the attempt to develop an internal agreement on allowing the waivers failed, the Illinois EPA requested assistance from the U.S. EPA. The U.S. EPA refused to allow the state to issue these waivers, because a policy written in 1992 apparently suggests that ARARs can only be waived by the U.S. EPA, not states, and only at federal lead sites.

**Response:** The Illinois EPA is always looking for ways to streamline the process. These projects are complicated and involve many different laws and regulations, as well as a number of different governmental bodies. These governmental bodies must decide how to correctly interpret these laws and regulations for individual sites--a task that is not as easy as it may appear. Several statements in the above comment need to be corrected and are addressed below:

(1) The Illinois EPA did not fail "to develop an internal agreement" but rather failed to identify a legal mechanism that would allow the Agency to issue the requested waivers of effluent and water quality standards.

(2) Water quality and effluent standards can also be waived by the U.S. EPA on state-lead fund financed actions. If there were no financially viable PRPs for this site, the Illinois EPA would have access to the ARAR waiver authorities of CERCLA.

38. **Comment:** Given Illinois EPA's lack of authority to propose a presumptive remedy under the Interim Consent Order, and its lack of statutory authority under the Illinois Environmental Protection Act to unilaterally direct such a remedy, the process must now revert to the focused RI/FS process described in the Interim Consent Order, Attachments 1 and 2. This process must include submittal of a final draft focused feasibility study, public comment, preparation of a response to the summary and issuance of a record of decision.

**Response:** See response to comment # 36 above. The Illinois EPA is not proposing a presumptive remedy but rather has proposed an interim action consistent with the guidance previously discussed (U.S. EPA, *Guide to Preparing Superfund Proposed Plans, Records of Decision and Other Remedy Selection Decision Documents*) OSWER 9200.1-23P section 8.2.). The Proposed Plan presents one of the remedies evaluated in the focused FS, as modified by the PRPs May 1998 proposal (*South Ditch, Proposed South Ditch Remedial Activities*) with the only modification being the addition of compliance with ARARs. In the section entitled "Construction Practices and Assumptions Associated with the Proposed DePue Site South Ditch Dredging Project," of the May 1998 document, the PRP stated the following:

"The project will be authorized under U.S. Corp of Engineers Nationwide Permit #38. Any state CWA (Clean Water Act) section 401 Water Quality Certification relating to the NWP (nationwide permit) will not impose additional conditions on the project."

However, nowhere in the document is the state's acceptance of that assumption a condition of the PRPs' willingness to implement the project that they proposed. Nor does that 1998 document, at any location, discuss the need to access the ARAR waiver authorities of Section 121 of CERCLA. The PRPs are fully aware that the state cannot allow implementation of a remedy that fails to comply with ARARs.

Having stated the above, the Illinois EPA finds no reason in this comment to vacate the remedy selection process and complete the focused South Ditch FS.

### **Extension of Comment Period**

39. **Comment:** When the PRPs read the Illinois EPA and U.S. EPA proposed plan, they requested a 90-day extension of the public comment period in order to develop a revised dredging proposal that would minimize water management with consequential reduction in water quality impacts. The Illinois EPA extended the comment period from November 12, 2002 to December 20. This length of time denied the PRPs an opportunity to present a sufficiently detailed revised proposal on the South Ditch remedy.

**Response:** The PRPs knew upon Illinois EPA's rejection of their February 2001 proposal that the Illinois EPA intended to propose the remedy presented in the Proposed Plan. The PRPs had from February of 2001 until December 20, 2002 to present to the Illinois EPA an alternate proposal and failed to do so. It is doubtful that an additional 52 days would have resulted in a proposal that was not developed in the intervening 20½ months.

40. **Comment:** As an alternative, the PRPs request that the Illinois EPA and U.S. EPA hold the administrative record open to allow the PRPs to seek the necessary variances or adjusted standards from the Illinois Pollution Control Board.

**Response:** The Proposed Plan hearing record and the ROD contain sufficient discussion on this issue to ensure that following completion of the treatability studies required by the ROD, the PRPs will have adequate time to seek variances or adjusted standards, if appropriate, from the Illinois Pollution Control Board (PCB). A petition to the PCB, without the data generated from valid treatability studies, would be highly unlikely to meet with success and until such time as those treatability studies are complete the need for variances or adjusted standards is only conjecture on the part of the PRPs.

### **Role of the U.S. EPA**

41. **Comment:** The role of the U.S. EPA in the South Ditch proposed plan/record of decision process is not well-defined. Neither Illinois EPA nor U.S. EPA has provided the PRPs with a copy of a cooperative agreement, required under CERCLA guidance, defining the agencies' respective roles at this site.

**Response:** There is no site-specific cooperative agreement between U.S. EPA and the Illinois EPA for the DePue New Jersey Zinc / Mobil Chemical site. This site is managed under the Superfund Memorandum of Agreement (SMoA) between U.S. EPA and the Illinois EPA.

42. **Comment:** The U.S. EPA's lack of support in granting critical ARAR waivers, for the South Ditch project has been troubling.

**Response:** The Illinois EPA and U.S. EPA acknowledge the PRPs' comment.

### Other Issues

43. **Comment:** The Proposed Plan violates the Interim Consent Order and is otherwise unlawful. If Illinois EPA adopts the Proposed Plan, its action will constitute an "order" under the Illinois Administrative Procedure Act and will be subject to judicial review. Under the Illinois Administrative Review Law 735 ILCS 5/3-102, 110, arbitrary and capricious Agency action is subject to reversal by the Illinois courts. Illinois EPA's proposed plan, if adopted, will constitute arbitrary and capricious Agency action. By its vague and ill-defined proposal, Illinois EPA has arbitrarily rejected four years of work and expense by the PRPs in developing (at Illinois EPA's request) a well-conceived dredging proposal for the South Ditch.

**Response:** The remedy selected in this ROD, and as presented in the Proposed Plan, was selected as a result of the procedures detailed in the Interim Consent Order and is consistent with the Illinois Contingency Plan and the National Contingency Plan. While the entire feasibility study process contained in the Interim Consent Order was not completed, the order additionally allows and requires consistency with the Illinois Contingency Plan and National Contingency Plan. Current guidance on remedy selection allows selection of interim remedies before completion of the FS process and in fact encourages selection and implementation of interim remedies where threats can be mitigated by early response.

The Proposed Plan contains the level of detail required by guidance for selection of interim remedies.

44. **Comment:** The Illinois EPA is well aware of the ready availability of interim measures ARAR waivers from U.S. EPA but elected to ignore this readily available solution and arbitrarily mandated compliance with effluent and water quality standards.

**Response:** As has been stated above (see comments #23, #26, # 27 and their responses above), the Illinois EPA, in the opinion of U.S. EPA, cannot use the waiver authorities of CERCLA Section 121.

45. **Comment:** The Illinois Contingency Plan provides for "best management practices," type remedies without the requirement for achievement of water quality standards. The Proposed Plan ignores the Illinois Contingency Plan and in doing so, the Illinois EPA is in violation of its own regulations.

**Response:** Without completion of the Proposed Plan's indicated treatability studies, "best management practices" cannot be determined. As discussed in the hearing record, upon completion of the treatability studies if the PRPs demonstrate that all reasonable "best management practices" cannot achieve ARAR compliance, the Illinois EPA may: (1) provide ARAR relief if the authority to do is available to it, (2) support expedited review of the PRPs' petition to the Illinois Pollution Control Board for adjusted standards, (3) apply any other administrative relief option available to it, or (4) nullify the ROD and begin the entire remedy selection process again by completing the FS process that was suspended in late 1997 and was requested by the PRPs in their comment #38.

46. **Comment:** The Illinois EPA also acted arbitrarily in requiring that the removed sediments be managed in accordance with state hazardous waste management regulations (35 Ill. Adm. Code Part 703), even though the sediments are not Resource Conservation and Recovery Act (RCRA) hazardous waste.

**Response:** The Illinois EPA agrees that the sediments are not RCRA hazardous waste, because of a specific exclusion in RCRA for primary zinc smelter slag and the Bevill amendment<sup>16</sup>, which extends that exclusion to environmental media contaminated exclusively with RCRA exempt waste. Furthermore, the Illinois EPA is considering 35 Ill. Adm. Code 724.652 through 724.654 (the Corrective Action Management Unit regulations) as the ARAR not 35 Ill. Adm. Code Part 703.

The definition of "ARAR" (applicable or relevant and appropriate requirement) distinguishes between a requirement that is "applicable" and one that is "relevant and appropriate". An applicable requirement is a federal or state law, regulation or other requirement that directly applies to the action (in this case the removal of South Ditch sediments). A "relevant and appropriate" requirement is one that may not be directly applicable but is appropriate to ensure protection of human health and the environment due to the nature of the waste.

Were it not for the specific exclusion for primary zinc smelter slag in RCRA and the Bevill amendment, the South Ditch unnatural sediments would be a hazardous waste. Technical management of the sediments consistent with the relevant and appropriate components of RCRA is not inconsistent with guidance, regulation and statute. A number of the administrative requirements of RCRA are not relevant and appropriate nor are they applicable and those requirements are not expected to be met by the South Ditch Interim Action.

47. **Comment:** Illinois EPA's proposed action is not authorized under the Interim Consent Order. The order prescribes alternative processes for developing an interim remedy for the South Ditch. Neither process was utilized in this case. Illinois EPA's proposed plan is a mixture of partial compliance with the RI/FS process described in Attachment 1 and Attachment 2 of the Interim Consent Order, and the now-terminated presumptive remedy process described in the

---

<sup>16</sup> RCRA is a federal law passed in 1976 that regulates the handling and disposal of hazardous waste. The law defines hazardous waste and specifically excludes mining waste such as primary zinc slag from this definition. RCRA was amended to say that environmental media (in this case the South Ditch unnatural sediments) exclusively contaminated by excluded waste such as the primary zinc slag, are not regulated by RCRA either. This amendment is called the Bevill Amendment.

Interim Consent Order, Attachment 1.

**Response:** The interim action remedy selected in this ROD is fully consistent with the RI/FS process described in Attachment 1 and Attachment 2 of the Interim Consent Order. While not specifically discussed anywhere in the order, the selection of interim action remedies is allowed by all guidance (and not precluded by the order) before completion of the RI/FS process. Progress toward completion of the South Ditch focused RI/FS was suspended as a result of the PRPs' May 1998 dredging proposal. The substantive completion of the South Ditch focused RI/FS will be completed, however, during implementation of the RI/FS for Lake DePue and the southeast areas of the site.

48. **Comment:** If Illinois EPA elects to adopt the Proposed Plan, that action will constitute a violation of the Interim Consent Order. Illinois EPA's current proposal to deviate from the Interim Consent Order's mandated RI/FS process and its attempt to exercise rights reserved to the defendants constitute a breach of its agreement with the PRPs and is in violation of Illinois law.

**Response:** The Illinois EPA does not agree with the commenter. See response to comments #45 and #46 above.

49. **Comment:** If the Illinois proceeds to adopt the Proposed Plan in its current form, the PRPs intend to invoke the dispute resolution process provided under Interim Consent Order Section XXVVII. The PRPs urges Illinois EPA to reconsider its proposed action.

**Response:** No response is required.

## APPENDICES

## ACRONYMS

<b>ARARs</b>	Applicable or relevant and appropriate requirements
<b>ATSDR</b>	Agency for Toxic Substances and Disease Registry
<b>CAG</b>	Community advisory group
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation and Liability Act
<b>FS</b>	Feasibility study
<b>HDPE</b>	High-density polyethylene
<b>IDPH</b>	Illinois Department of Public Health
<b>Illinois EPA</b>	Illinois Environmental Protection Agency
<b>NPDES</b>	National Pollution Discharge Elimination System
<b>NPL</b>	National Priorities List
<b>OSWER</b>	U.S. EPA Office of Solid Waste and Emergency Response
<b>PRP</b>	Potentially responsible party
<b>RA</b>	Remedial action
<b>RCRA</b>	Resource Conservation and Recovery Act of 1976
<b>RI</b>	Remedial investigation
<b>RI/FS</b>	Remedial investigation/feasibility study
<b>ROD</b>	Record of decision
<b>U.S. EPA</b>	United States Environmental Protection Agency

## GLOSSARY

**Applicable or relevant and appropriate requirements (ARARs).** One of the nine criteria used to evaluate Superfund remedies. "Applicable requirements" means those cleanup standards, standards of control and other substantive requirements, criteria or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstances found at a CERCLA site. "Relevant and appropriate requirements" means those cleanup standards, standards of control and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. To be an ARAR, the state standard must be identified in a timely manner and be more stringent than federal requirements.

**Community advisory group.** A group of DePue Citizens who periodically met with Illinois EPA staff and representatives of PRPs. They defined their mission as "To receive and disseminate concerns, opinions and recommendations to the appropriate federal and state agencies related to the cleanup of the DePue Superfund site." Their last meeting was April 17, 2002.



**Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).**

The federal law (commonly called the Superfund law) passed in 1980 and amended in 1986 to provide procedures and funds to investigate and, if necessary, to remedy the nation's most serious hazardous waste sites.

**Consent order.** An agreement between the signing parties to perform certain actions. The order is entered into and enforceable by the court. The parties of the 1995 consent order are the People of the State of Illinois v. Horsehead Industries, Inc., Mobil Oil Corporation (now Exxon Mobil Corporation) and Viacom International Inc. These companies are considered potentially responsible parties (PRPs) for the site. (See definition for PRPs.) In this order, the PRPs made several agreements including an agreement to investigate the South Ditch sediments and to construct, if necessary, a remedy for these sediments.

This consent order is called an "interim order," because the PRPs also agreed to conduct a remedial investigation and feasibility study for the entire site, but they did not agree, at that time, to construct the remedy for the entire site. That work will be the subject of negotiations for a second and final consent order.

**Feasibility study (FS).** A study of different options to reduce risk from contaminants identified during the remedial investigation of a site. The feasibility study presents each option with its benefits and drawbacks.

**Illinois Contingency Plan** The short name for Illinois regulations called the Illinois Hazardous Substances Pollution Contingency Plan (35 Ill. Adm. Code Part 750). These regulations implement the "Illinois Superfund Program".

**Interim consent order.** See consent order.

**National Contingency Plan.** The short name for the National Oil and Hazardous Substances Contingency Plan, which is the federal regulation implementing the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

**National Priorities List (NPL).** The list of the nation's most hazardous sites that are eligible for investigation and, if necessary, a remedy under the federal Superfund law. (See definition for CERCLA.) The New Jersey Zinc/Mobil Chemical Superfund Site was placed on the NPL in 1999.

**pH.** A symbol for the degree of acidity or alkalinity of a solution. A value of 7 is regarded as neutral. Values from 0-7 indicate acidity and values from 7-14 indicate alkalinity.

**Potentially responsible party (PRP).** An organization or individual who is the past or present owner or operator of a National Priorities List site, or one who may be responsible for generating, transporting, or disposing of waste at a site. For this site, the PRPs are Horsehead Industries, Inc., Exxon Mobil Corporation and Viacom International Inc.

**Record of decision (ROD).** The public document, signed by the Director of the Illinois EPA and the Administrator of U.S. EPA Region 5, that records the decision about a remedy for an Illinois Superfund site.

**Remedial investigation (RI).** An in-depth environmental study designed to gather information needed to (1) determine the nature and extent of contamination at a Superfund site, (2) establish site cleanup criteria, (3) identify preliminary alternatives for remedial action and (4) support technical and cost analyses of alternatives. Work conducted during a RI may include collection of soil (both surface soil and subsurface soil), water (both surface water and groundwater), air and waste piles.

**Resource Conservation and Recovery Act (RCRA).** A federal law passed in 1976 that regulates the handling and disposal of hazardous waste.

**Responsiveness summary.** A summary of oral and written public comments received by the Illinois EPA and/or the U.S. EPA during a comment period on key documents, and the agencies' response to those comments. The responsiveness summary is a key part of a record of decision, highlighting community concerns for decision-makers.

**Superfund site.** The common name given to sites on the National Priorities List (NPL).

### **For More information**

**Contacts:** You may contact Virginia Wood Forrer, Illinois EPA Community Relations Coordinator, or Rich Lange, Illinois EPA Project Manager, at 1021 North Grand Ave. East; P.O. Box 19276, Springfield, IL 62794-9276. Virginia Forrer's e-mail address is [Virginia.Forrer@epa.state.il.us](mailto:Virginia.Forrer@epa.state.il.us) and her telephone number is 217/785-1269. Rich Lange's email address is [Rich.Lange@epa.state.il.us](mailto:Rich.Lange@epa.state.il.us), and his telephone number is 815/447-2125.

**Illinois EPA Web Page:** Project fact sheets are also available on the Illinois EPA Web Page: <http://www.epa.state.il.us/community-relations/fact-sheets.html>

**Repositories:** The Illinois EPA has placed project documents, including copies of laws and regulations cited in this responsiveness summary, in the Selby Township Library in DePue for public review. Please call the library for hours (815/447-2660).

**Administrative Record File:** The administrative record file contains all documents upon which project decisions are based. This file is located in the Springfield Office of the Illinois EPA. Call for an appointment at 217/782-9878. A copy of the administrative record file index is located in the project repository in the Selby Township Library in DePue.

# ATTACHMENTS

## **Attachment 1**

### **History of Major Illinois EPA Community Relations Activities**

## **History of Major Illinois EPA Community Relations Activities**

October 1, 1992. The Illinois EPA established a repository of project information at the Selby Township Public Library in DePue. The repository has been updated as new information became available.

October 6, 1992. The Illinois EPA held a public meeting in DePue to discuss sample results from the expanded site inspection conducted in March 1992. Before the meeting, the Illinois EPA mailed a fact sheet to interested residents summarizing the sample results.<sup>17</sup>

October 1992. The Illinois Department of Public Health (IDPH) and the Food and Drug Administration analyzed data from fish fillets collected in Lake DePue.

December 1992. The IDPH collected 65 composite surface soil samples from residential yards.

September 1993. The IDPH conducted blood and urine sampling in response to community concerns.

October 1993. The IDPH collected interior dust samples from homes.

October 1994. The IDPH collected additional interior dust samples.

September 1995. The Illinois EPA released two fact sheets: one describing the background of the site and the other inviting the public to comment on the proposed Interim Consent Order.

September 29 through October 25, 1995. The Illinois EPA held a public comment period on the proposed Interim Consent Order.

October 17, 1995. The Illinois EPA held a public meeting in DePue regarding the proposed Interim Consent Order.

March 1996. The Illinois EPA finalized a community relations plan and placed it in the repository.

June 1996. The Illinois EPA distributed a project update to the mailing list.

October 1996. The Illinois EPA distributed a project update to the mailing list.

February 1997. The Illinois EPA distributed a fact sheet describing the interim water treatment system.

April 1997. The U.S. EPA proposed the New Jersey Zinc/Mobil Chemical site for the National Priorities List and held a comment period on this proposed listing.

---

<sup>17</sup> The Illinois EPA printed all Agency fact sheets in English and in Spanish.

July 3, 1997. The Illinois EPA distributed a fact sheet describing community advisory groups and held a public meeting to discuss with community members the option of forming a community advisory group (CAG) and the availability of technical assistance grants.

July 9, 1997. Community members met and formed a CAG, considering and later approving the following mission statement: "To receive and disseminate concerns, opinions, and recommendations to the appropriate federal and state agencies related to the clean-up of the DePue Superfund site." The Illinois EPA, other appropriate state and federal agencies, and the PRPs were named as ex-officio members of the CAG. The CAG met in July, August and September of 1997. In 1998, it met in January, February, March, June, August, September, October and December. In 1999, it met in January, February, March, May and October. In 2000, it met in February, March, May, August and November. In 2001, it met in February, May, October, and in 2002, it met in April. Illinois EPA representatives attended all the meetings to give project updates and answer questions. At the last meeting, the CAG heard presentations from Tom Bloom who is Region 5 Superfund Redevelopment Coordinator. As a result of that meeting, the U.S. EPA gave the community an in-kind-services grant to use the services of Ecology & Economics--a consulting firm specializing the economic redevelopment of Superfund sites.

February 1998. The Illinois EPA issued a fact sheet summarizing the results of the focused remedial investigation of the South Ditch sediments.

July 1998. The Illinois EPA updated its mailing list by writing a letter (in English and Spanish), to all post office box holders, with a return envelope (to the Agency) and form asking for the names and address of people who wanted to be included on the project mailing list. In DePue, there is no home delivery of mail. All residents pick up their mail at the local post office. An Agency fact sheet answering commonly asked questions about the project was included in that mailing.

May 1999. The Illinois EPA, at the CAG's request held a public meeting regarding the project for those who speak only Spanish.

June 1999. The site was finalized on the National Priorities List.

September 1999. The Illinois EPA issued a fact sheet describing the work plan for the Phase I remedial investigation of the site-wide remedial investigation.

August 2000. Illinois EPA staff participated in a lake festival sponsored by the CAG. In preparation for the festival, Illinois EPA staff prepared a display and a brochure that showed the connection between the plant property and Lake DePue. Included in the brochure and display was a discussion of the role of the South Ditch.

August 2001. The Illinois EPA issued a project update.

August 2002. The Illinois EPA issued a project update.

September 6, 13 and 20, 2002. The Agency placed a display advertisement in the LaSalle News Tribune announcing the comment period for the South Ditch Proposed Plan and other studied remedies. The advertisement gave a brief description of both the Proposed Plan and the other alternatives. The Agency placed the same advertisement in the Bureau County Republican on September 1, 2002. The advertisement announced that the comment period would be from September 9 to November 12, 2002.

September 2002. The Illinois EPA issued a fact sheet describing the Proposed Plan and other remedies considered for the South Ditch sediments.

September 2002. The Illinois EPA placed an index of the administrative record in the project repository at the Selby Township Public Library in DePue. The documents in this index were present in the repository.

October 9, 2002. The Illinois EPA held a public hearing in DePue to receive public comments on the Proposed Plan and other alternatives for the South Ditch sediments. At the hearing, a representative for Viacom asked that the Agency extend the comment period to February 10, 2003. The Agency hearing officer at that time extended the comment period to November 20 (CHECK) to provide time to consider the request. On November 4, 2002, the hearing officer extended the comment to December 20, 2002.

## **Attachment 2**

**Policy Documents on Waivers  
Selected and Provided by U.S. EPA**